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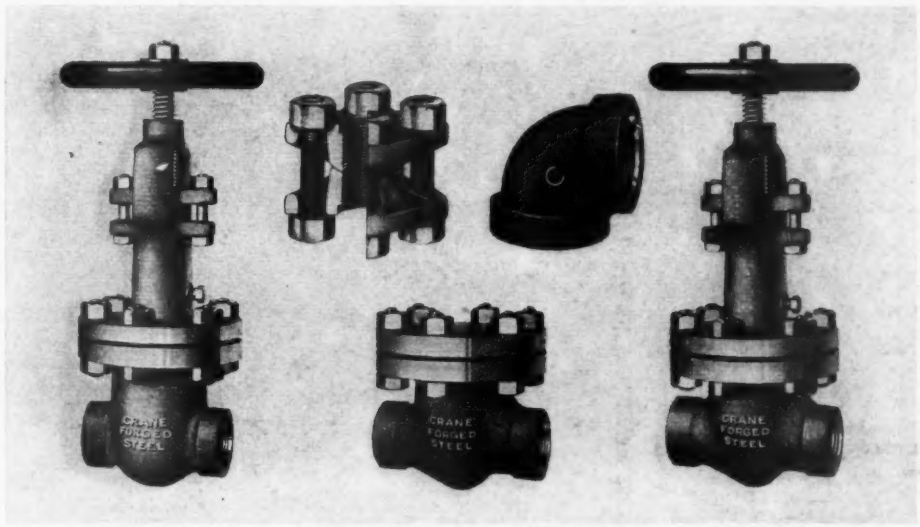

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Advertisers' Index on Page 17 Table of Contents on Page 18

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XUM

The ADVERTISERS' INDEX

A

Acme Fishing Tool Co.
Air Cleaning & Reaming Corp.
Ajax Iron Works
Ajax Rope Co.
Aluminum Co. of America
American Appraisal Co.
American Asphalt Paint Co. 70
American Car & Foundry Co.
American Mfg. Co. of Texas
American Radiator Co. 13
American Roller Bearing Co. 91
American Rolling Mill Co.
American Schaeffer & Budenburg Corp. 80-D
American Sheet & Tin Plate Co.
American Spiral Pipe Works
American Telephone & Telegraph Co.
American Well Works 78
Anderson & Anderson 140
Anderson, Carl B. 138
Andrews Steel Co. 94
Arbon, Paul & Co.
Arco Company, The
Armstrong Bros. Tool Co. 136
Askania, Werke, A. G.
Athey Truss Wheel Co.
Atlas Bail Co. 92
Auer, C. A.
Austin Co.
Axelson Machine Co. 9

B

B. & A. Specialty Co.
Baash-Ross Tool Co.
Babcock & Wilcox Tube Co., The 74
Baker Casing Shoe Co.
Baldwin Chain & Mfg. Co.
Barber-Greene Co.
Barnickel, Wm., S. & Co. 136
Barnsdall Refining Co. 79
Bartlesville Supply Co. 84
Belle City Mfg. Co.
Bessemer Gas Engine Co. 53
Bignall & Keeler Machine Works
Binks Spray Equipment Co.
Black Steel & Wire Co.
Blackmer Pump Co.
Blaw-Knox Co.
Borden Co.
Botfield Refractories Co.
Bovaird & Seyfang Mfg. Co. 131
Bovaird Supply Co., The
Braden Co.
Brady Conveyors Corp.
Braun, C. F., & Co. 5
Bridgeport Machine Co. Back Cover
Bristol Co. 134
Broderick & Bascom Rope Co. 135
Brokaw, Dixon, Garner & McKee 140
Brooks Engineering Corp. 89
Brown, Arthur C. 138
Brownell Co.
Brown Instrument Co.
Brown & Thomsen 139
Brown Tool Co., Inc.
Bruce-MacBeth Engine Co.
Buckeye Traction Ditcher Co.
Buda Co.
Buffalo Gasolene Motor Co. 80-C
Burns Tool Co.
Burt Corporation
Burt Mfg. Co. 110
Busch-Sulzer Bros. Diesel Engine Co.
Butler Mfg. Co.
Byers, A. M., Co. 71
Byron Jackson Pump Mfg. Co., Inc.

C

Campbell, J. A.
Canadian Pacific Railway Co.
Carbondale Machine Co. 90
Caudill, Samuel J. 138
Celite Products Co. 76
Central Forging Co. 4
Central Steel Co.
Central Tube Co. 136
Chain Belt Co.
Champion Machine & Forging Co.
Chaplin-Fulton Mfg. Co. 136
Chapman Valve Mfg. Co.
Chestnut & Smith Corp. 61
Chicago Bridge & Iron Works
Chicago Pneumatic Tool Co. 57
Chicago Steel Foundry Co.
Chisholm-Moore Mfg. Co.
Clapp, Frederick G. 138
Clark Bros. Co.
Clark, Robert W. 140
Classified Wants 108-109
Cleveland Tractor Co. 100
Climax Engineering Co. 107
Coatesville Boiler Works
Columbian Rope Co.
Columbian Steel Tank Co.
Columbus Forge & Iron Co. 140
Columbus Sucker Rod Co.
Continental Motors Corp.
Continental Supply Co. 51
Cook Paint & Varnish Co.
Cooper, C. & G., Co. 46-47
Cox & Sons Co., The
Crane Co. Front Cover
Crane Packing Co.
Crown Central Petroleum Corp.
Cross Engineering Co.
Cushing, Tim, Tool & Supply Co.

D

D. & B. Pump & Supply Co.
D. & N. Specialty Co.
Darling Valve & Mfg. Co. 85
Dart, E. M., Mfg. Co. 128

D

Davis, G. M., Regulator Co. 80-B
Dayton Pipe Coupling Co.
Dearborn Chemical Co.
De La Vergne Machine Co.
Delta Electric Co.
Detroit Graphite Co. 83
Diamond Drill Carbon Co. 140
Dixon, Joseph, Crucible Co.
Dodge Mfg. Co.
Donovan Boiler Works, Inc. 64-B
Dresser, S. R., Mfg. Co. 27
Dunn Mfg. Co. 97
DuPont De Nemours & Co., Inc., E. I.
Durabla Mfg. Co.

E

Eagle-Picher Lead Co. 2
Earnshaw, G. W. 140
Eastern Torpedo Co. 134
Eclipse Paint & Mfg. Co.
Edward Valve & Mfg. Co.
Elliott Core Drilling Co.
Empire Refineries, Inc.
Emsco Derrick & Equipment Co.
Equitable Meter & Mfg. Co.
Eureka Burner Co.

F

Fairbanks-Morse & Co.
Farley Machine Works Co.
Federal Supply Co.
Fenwick-Reddaway Mfg. Co.
Fisher Governor Co.
Foamite-Childs Corp.
Fohs, F. Julius 139
Foos Gas Engine Co.
Ford Chain Block Co. 134
Ford Motor Co.
Fort Worth Laboratories 138
Foxboro Co., Inc., The
Franklin Valveless Engine Co. 62-63
Frick-Reid Supply Co. 37
Full Crawler Co. 132

G

Gardner Governor Co. 87
Garlock Packing Co.
Gaso Pump & Burner Mfg. Co. Inside Back Cover
General American Tank Car Corp.
General Insulating & Mfg. Co.
General Motors Truck Co. 75
General Oil Tools Co.
Geophysical Research Corp. 43
Gilbert & Barker Mfg. Co.
Gilfillan Machine Works 138
Gomory, W. L. 140
Goodrich, B. F., Rubber Co. Inside Front Cover
Goodyear Tire & Rubber Co. 140
Gott, H. P., Mfg. Co. 93
Goulds Pumps, Inc. 115
Graham Brothers
Graver Corp. 103
Greenspon's, Joseph, Sons Iron & Steel Co. 131
Griscom-Russell Co. 15
Guiberson Corp.
Gulf Refining Co.

H

Halliburton Oil Well Cementing Co. 49
Harrisburg Pipe & Pipe Bending Co.
Hazard Mfg. Co. 41
Heppenstall Forge & Knife Co.
Herald Brothers 140
Hercules Motors Corp. 101
Hercules Tool Co.
Heydrick Mapping Co. 136
Hill, Hubbell & Co. 64-D
Hills-McCanna Co.
Hinderliter Tool Co.
Homestead Valve Mfg. Co.
Hood, H. H. 140
Hoover Steel Ball Co.
Hope Engineering & Supply Co.
Hopkins, Edwin B. 139
Hough, Charles N., Mfg. Co. 132
Houston Pump & Supply Co.
Hoyt Metal Co.
Hughes Tool Co. 55
Humble Oil & Refining Co.
Hunt, Robert W., Co.
Huntley & Huntley 138

I

Illinois Glass Co.
Imperial Belting Co.
Imperial Royalties Co.
Ingersoll-Rand Co.
International Derrick & Equipment Co. 16
International Harvester Co. of America
International Supply Co. 64-A
Iron King Mfg. Co.

J

Jarecki Mfg. Co. 80-A
Jefferson Union Co.
Johns-Manville, Inc.
Jones, S. M., Co. 95-139

K

Kansas City Hay Press Co.
Kaw Steel Construction Co.
Kellogg, M. W., Co. 105
Kelly, John Eoghan 139
Kelly-Springfield Tire Co.
Kennedy Valve Mfg. Co.

K

Kerotest Mfg. Co.
Kerr, John B. 139
Keuffel & Esser Co.
Kewanee Boiler Co.
Key Boiler Equipment Co.
Kinley, M. M., Co.
Kirk & Hoover 138

L

Landis Machine Co. 3
Larkin & Co.
Layne & Bowler Co.
Leidecker Tool Co.
Leschen, A., & Sons Rope Co.
Linde Air Products Co. 1
Link-Belt Co.
Longyear, E. J. Co. 139
Lucey Mfg. Corp.
Ludlow Valve Mfg. Co.
Lufkin Fdy. & Machine Co.
Lufkin Rule Co.
Lunkenheimer Co.
Lyons, Thomas D. 138

Mc

McCord Radiator & Mfg. Co. 96
McGregor Working Barrel Co.
McIntosh & Seymour Corp.
McJunkin Supply Co. 96
McKee, Arthur G., & Co.
McNutt, V. H. 139

M

Magnolia Petroleum Co. 14
Maloney Tank Mfg. Co. 69
Manzel Bros.
Marion Machine Foundry & Supply Co. 10
Marsh Gauge Pole Co.
Mathieson Alkali Works, Inc.
Matson, George C. 139
Matthews, W. N., Corp.
Maverick, Phillip 140
Meier, E. C., Lubricating Co.
Merco Nordstrom Valve Co.
Messimer, H. H. 139
Metric Metal Works
Midwest Piping & Supply Co.
Miller Improved Gas Engine Co.
Miller, Max B., & Co., Inc.
Mineral Exploration Co.
Mine Safety Appliance Co. 107
Missouri Wood Working Co. 138
Moon Mfg. Co. 136
Moore, Lee C., & Co., Inc. 32
Mosler Metal Products Corp.
Munn & Co. 138
Murray Rubber Co. 135
Murray Tool & Supply Co.
Myers, F. E., & Bro. Co. 100

N

National Carbon Co., Inc. 1
National Gas Products Corp.
National Lead Co.
National Petroleum Engineering Corp. 139
National Petroleum Marketers Assn.
National Pigments & Chemical Co. 111
National Supply Co. 65
National Transit Pump & Machine Co. 82
National Tube Co. 6
National Turnbuckle Derrick Co.
Newton Process Mfg. Co. 25
Norris Bros., Inc.
Norris, W. C.
North American Car Co.
Northern Fire Apparatus Co. 77
Northern Oil Information Bureau 138
Northrup Equipment Co.
Nuttall, R. D., & Co. 105
Nye Tool & Machine Works 7

O

O'Brien Steel Construction Co. 106
Oertling, L., Ltd.
Ohio Steel Foundry Co.
Oil Conservation Engineering Co.
Oil Country Specialties Mfg. Co.
Oil Insurance Association
Oil Well Supply Co. 72-73
Oklahoma Armature Repair Co.
Oklahoma Steel Casting Co.
Oxweld Acetylene Co. 1

P

Parkersburg Machine Co.
Parkersburg Rig & Reel Co.
Partrige-Scotfield Stamp & Stencil Co.
Patrick, R. S.
Pattin Brothers Co. 137
Penberthy Injector Co. 104
Petroleum Appliance Co.
Petroleum Iron Works 102
Petroleum Register, The 87
Pforzheimer, Carl H., & Co.
Pickering Governor Co.
Pittsburg Boiler & Machine Co.
Pittsburgh-Des Moines Steel Co.
Pittsburgh Meter Co. 104
Pittsburgh Steel Products Co.
Philbrico Jointless Firebrick Co.
Plymouth Cordage Co.
Porter & Co.
Powell, William Co. 138
Power Mfg. Co.
Power Piping Co. 140
Power Plant Equipment Co. 93
Power Specialty Co.
Prescott Co., The
Prest-O-Lite Co., Inc., The 1

P

Progressive Brass Mfg. Co.
Pure Oil Co. 59
Pyle-National Co. 86

R

Ranney Oil Mining Co. 139
Ratigan, J. P., Co.
Reading Iron Co. 129
Reading Steel Casting Co., Inc.
Reed Roller Bit Co. 68
Regan Forge & Engineering Co. 8
Reid, Joseph, Gas Engine Co. 66
Republic Flow Meters Co.
Republic Iron & Steel Co.
Republic Supply Co.
Rich, John L. 138
Ridge Tool Co.
Ring, DeWitt T. 140
Riter-Conley Co. 140
Robinson, A.
Roots, P. H. & F. M., Co.
Ross Heater & Mfg. Co., Inc.
Ross-Mehan Foundries 138
Ryerson, Joseph T., & Sons 139

S

Safety Pulling Machine Co.
Sargent Engineering Corp., The 94
Shaffer, J. E., Co.
Shaffer Tool Works
Shaw, S. F.
Sheffield Steel Corp. 88
Sherwin-Williams Co.
Shippers' Car Line, Inc.
Simplex Equipment Co.
Sinclair Refining Co. 121
Sivyer Steel Casting Co.
Skelly Oil Co.
Smith, A. O., Corp.
Smith Separator Co. 12-39
South Chester Tube Co.
Southern Cornice Works
Southwestern Engineering Corp.
Southwestern Engineering Co., Inc.
Spang & Co.
Spang, Chalfant & Co., Inc. 45
Spence Machine Co. 139
Spencer Trailer Co.
Stalder, Walter 139
Stanley Belting Corp.
Star Drilling Machine Co.
States Engineering Co., The
Stearns-Roger Mfg. Co. 103
St. Louis Surfacer & Paint Co.
Strom Steel Ball Co.
Sullivan Machinery Co.
Superior Tube Co.

T

Taubman Supply Corp.
Templeton, Kenley & Co., Ltd.
Texas Company, The
Timken Roller Bearing Co.
Titusville Forge Co.
Titusville Iron Works
Toledo Pipe Threading Machine Co. 111
Trimont Mfg. Co.
Trumble Gas Trap Co.
Truscon Steel Co.
Twin Disc Clutch Co.

U

Union Machine Co. 30
United Alloy Steel Corp.
United Iron Works, Inc. 81
United States Cast Iron Pipe & Fdy. Co. 110
United States Rubber Co.
Universal Oil Products Co. 31
U. S. Tool Co.

V

Van Couvering, M. 140
Victaulic Co. of America
Vogt, Henry, Machine Co.
Voiz Engineering Equipment Co. 92

W

Wall Rope Works, Inc.
Walsh & Weidner Boiler Co.
Walworth Co. 11
Warren Petroleum Co.
Waukesha Motor Co.
Westcott & Greis
Western Machinery Co.
Western Supply Co.
Westinghouse Electric & Mfg. Co. 54C
Wheatley Brothers Machine Works 106
Wheeling Steel Corp.
White Co.
Wickwire Spencer Steel Co.
Wico Electric Co.
Widdell Engineering Co.
Williams, Herbert E. 140
Williams, J. H., & Co.
Williamsport Development Co.
Williamsport Wire Rope Co.
Williams Tool Corp.
Wilson Oil Tools Corp.
Wilson Welder & Metals Co.
W-K-M Company, Inc.
Wood & Wood 139
Worthington Pump & Mach. Corp. 127
Wright, Harry F. 140
Wright Mfg. Co. 137

Y

Yale & Towne Mfg. Co. 99

Z

Zero Hour Torpedo Co.

WHAT AND WHERE TO BUY—PAGES 141-142-143

XUM

The Oil and Gas Journal

PRODUCING REFINING MARKETING

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TABLE OF CONTENTS

SPECIAL ARTICLES

Production in Record Gain for Year 19
By Andrew M. Rowley
Old Spindletop Pool in Gulf Coast mainly responsible. Crude situation in Mid-Continent continues good.

Air-Gas Lift Installations Increasing 21
By J. L. Dwyer
Success of method now being employed extensively in Mid-Continent attracting attention of operators.

Can 40,000,000 Barrels Locked in Sands Be Recovered? 22-23
By Phillip Kates
Successful experiments in laboratory and Bradford Field. Means vast reserve of supply of crude.

Analyses Made of Panhandle Crude Oil 24
By Dr. C. K. Francis
Samples from different wells in field show essential characteristics of petroleum of area.

As Much More Oil? (Editorial) 26

Technical Questions Answered 28
By Dr. C. K. Francis

Spindletop Peak at 75,000 Barrels 29
Coastal dome rivals Texas Panhandle production for week. Water intrusion increasing in deep sand wells. Seal Beach sand find.

Big Gain in Initial Production in July 29

Significant Completions Thus Far in 1926 60

Seismograph and Other Methods Used for Locating Structure 64-B
By Dr. C. A. Heiland

FIELD OPERATIONS

Texas Panhandle 30
By C. D. Lockwood

North Texas 32
By C. D. Lockwood

Oklahoma 34
By J. L. Dwyer

New Mexico (Artesia) 34
By Staff Correspondent

Kansas 35
By J. L. Dwyer

Southwest Texas 36
By B. D. Stevenson

Rocky Mountain Area 38
By Frank B. Taylor

Canada 38
By Victor Lauriston

Louisiana-Arkansas 40
By James H. Dameron

Mexico 40
By George Blardone

Gulf Coast 42
By P. L. McGreal

East Central Texas 42
By Special Correspondent

California 44
By L. P. Stockman

New Mexico (San Juan Basin) 48
By Special Correspondent

Kentucky-Tennessee 50
By Whit

Central West 50
By Whit

Pennsylvania-West Virginia 52
By D. S. Wakenight

Michigan 52
By Whit

ARTICLES OF GENERAL INTEREST

The Advertisers' Index 25

Men Known in Oildom and Personals 54

Natural Gas Developments 56

Equipment and Supplies 58

Pipe Mills Report Biggest Year 94
By B. E. V. Luty

Classified Want Advertisements 108-109

Oil Securities Active and Firm 117
By N. O. Fanning

What and Where to Buy 141-142-143

Crude Petroleum Statistics 144

REFINING AND MARKETING

No Unusual Developments in Group 3 20
By C. O. Willson
New month opens with slow-up in gasoline and kerosene demand. Fuels and distillates strong with little material offered.

Chicago Market Active 110
By J. B. Waldo

Eastern Situation Favorable 111
By N. O. Fanning

Increase Yields at Johnson Refinery 112
By Neil Williams
New bubble towers and cracking equipment changes and new type pumps add to output.

Refining and Marketing News 114

Plant Operators' Page 116

Refinery and Crude Prices 118-119

Tankwagon Quotations 120

Unusual Design in Western Refinery 130
By George W. H. Reid
Fractionating equipment and treating methods unique. Handles 3,000 bbls. daily on one block site.

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Refinery Section Starts on Page 110

Production In Record Gain for Year

Highest daily average estimated production week ended May 30, 1925, 2,347,984 bbls. Lowest in 1925, January 3, 1,911,730 bbls.

Old Spindletop Pool in Gulf Coast Mainly Responsible. Crude Situation in the Mid-Continent Continues Good

By Andrew M. Rowley

Highest daily average estimated light oil production in 1925, week ended January 17, 1,525,220 bbls. Lowest in 1925, July 18, 1,374,173 bbls.

The old Spindletop Pool in the Texas Gulf Coast area, discovered late in 1901, staged a real comeback during the past week when production from the recently opened deeper sand showed an average daily increase for the week of 30,800 barrels, bringing the average of the field for the week to 55,000 barrels a day. On Tuesday of this week, the field was producing at the rate of 75,000 barrels a day, which, on account of a greater intrusion of water, is believed will be close to the peak. This big increase at Spindletop, together with gains in the Texas Panhandle, Oklahoma and California resulted in the largest rise in production during a week thus far this year.

Despite the recent material gains in crude oil production there is a strong feeling prevalent the industry will be able to maintain prices during this month at least, although there is no question more crude is being brought to the surface now than is needed. One thing is certain—when the major purchasing companies begin to put crude oil in storage, prices will be reduced. As long as crude is being withdrawn from storage, there is no danger of a price cut. The situation in the Mid-Continent area has not changed to any great extent and it is estimated approximately 65,000 barrels of crude is still being withdrawn from storage every day in Oklahoma and Kansas. This withdrawal is the factor which assures operators of good prices as long as this condition obtains.

It must be remembered that much of the increase in production during recent weeks has been in the Texas Panhandle where there are no pipeline facilities to outside markets and, also, that production in that field probably will register a material decline with the coming of cold weather. Consequently, with crude oil being withdrawn from storage in the big marketing areas and Texas Panhandle crude not easily available to markets, there is no immediate cause for alarm over the big increase in production shown for the country as a whole. The output at Spindletop will have more effect upon the general situation than the production of the Texas Panhandle for it is immediately available to the big refineries located near the field.

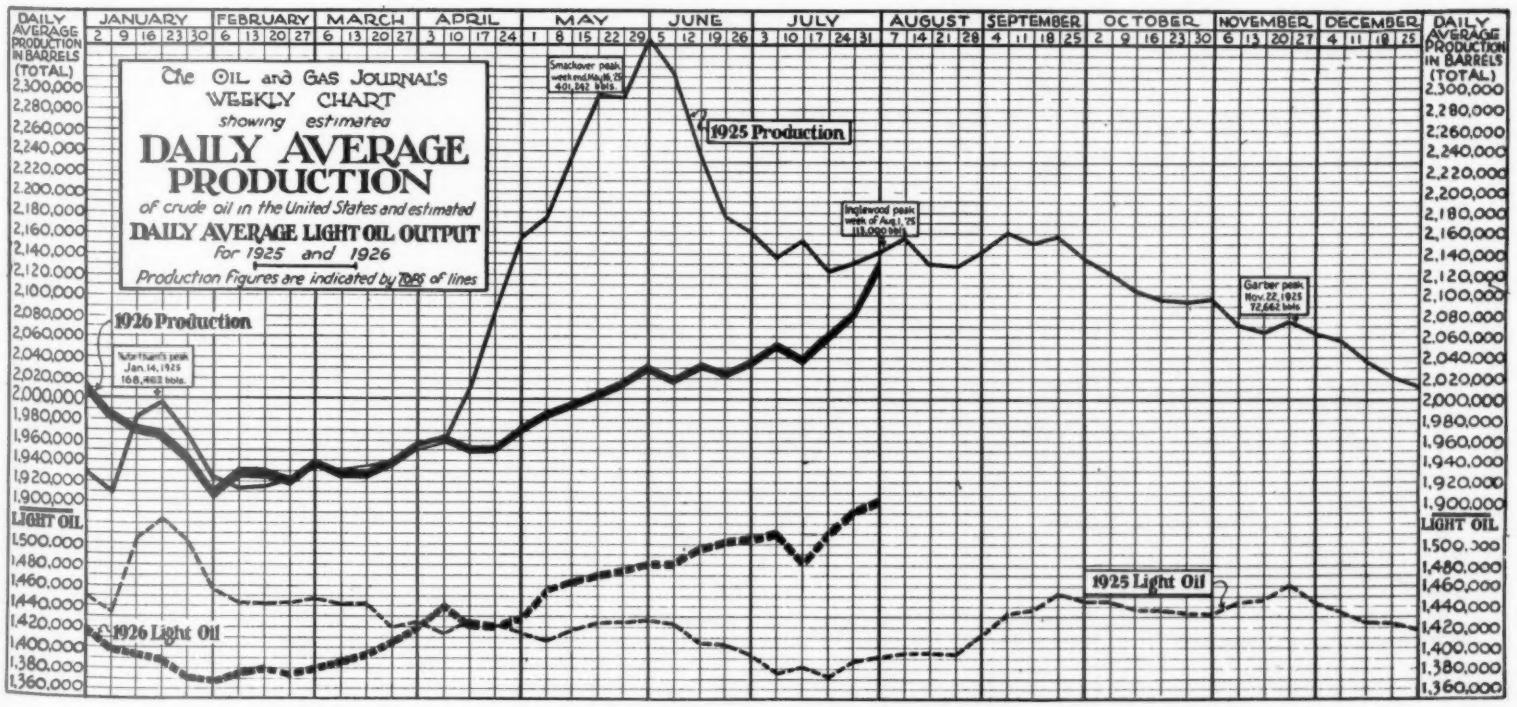
Production is still more than 200,000 barrels daily below the peak of last year and nothing has arisen to change the belief the output of crude this year will be at least 20,000,000 barrels less than in 1925.

PRODUCTION IN THE UNITED STATES

Estimated daily average production of light and heavy gravity crude oil in the United States for week ended July 31, and a comparison with the previous week follows:

	July 31		July 24	
	Light	Heavy	Light	Heavy
Oklahoma—				
Tonkawa	39,155	.....	39,915	.....
Burbank	44,870	.....	44,280	.....
Other Osage Fields	34,310	.....	34,235	.....
Cushing and Shamrock	21,545	.....	21,620	.....
Bristow and Eastern Bristow	28,635	.....	29,215	.....
Cromwell	16,505	.....	16,330	.....
Garber	35,580	.....	34,385	.....
Blackwell-Braman	17,525	.....	16,995	.....
Seminole	11,600	.....	6,400	.....
Wewoka	29,885	.....	32,635	.....
Northern Miscellaneous	115,625	.....	115,765	.....
Southern Fields	65,750	.....	66,055	.....
Total Oklahoma	460,985	.....	457,830	.....
North Louisiana	43,300	12,840	43,835	13,355
Arkansas—				
Smackover Light	15,180	.....	15,175	.....
Smackover Heavy	.....	123,185	.....	123,500
Miscellaneous	21,740	.....	22,080	.....
Total Arkansas	36,920	123,185	37,255	123,500
North Central Texas	177,186	.....	177,856	.....
Texas Panhandle	80,748	.....	70,405	.....
Powell	28,800	.....	29,025	.....
Mexia, Currie, Richland, etc.	17,620	.....	17,270	.....
Wortham	7,300	.....	7,500	.....
Kansas	111,765	.....	111,335	.....
Total Mid-Continent Area	964,624	136,025	952,311	136,855
Gulf Coast	.....	150,775	.....	122,740
Southwest Texas	.....	44,505	.....	40,500
Eastern	105,100	.....	105,250	.....
Rocky Mountain Area	114,075	.....	114,526	.....
California—				
Santa Fe Springs	49,500	.....	49,000	.....
Long Beach	108,500	.....	108,000	.....
Huntington Beach	44,000	.....	43,500	.....
Torrance	6,000	23,000	6,000	23,000
Dominguez	20,500	.....	20,500	.....
Rosecrans	16,000	.....	16,500	.....
Inglewood	28,000	20,000	28,500	20,000
Ventura Avenue	46,000	.....	45,000	.....
Remainder of State	43,000	212,000	43,000	211,000
Total California	361,500	255,000	360,000	254,000
Total United States	1,545,299	586,305	1,532,087	554,095
Grand Total	2,131,604		2,086,182	

Total Increase, 45,422 Bbls.; Light Oil Increase, 13,212 Bbls.



WHAT AND WHERE TO BUY—PAGES 141-142-143

No Unusual Developments in Group 3

New Month Opens With Slow-up in Gasoline and Kerosene Demand. Fuels and Distillates Strong, Little Offered

By C. O. Willson

The Oklahoma (Group 3) refined market was devoid of any developments of a sensational nature during the past week. Sales were largely confined to routine orders with no large purchases of any product.

Both gasolines and kerosenes were having difficulty holding the price levels established the previous week with concessions on some grades sufficient to constitute general reductions. It was apparent on Monday and Tuesday that many jobbers had purchased their early August requirements the last week in July and are now waiting further price developments before placing additional orders.

The official attitude of one of the large jobber associations was held in part responsible for the position of many of the buyers. The head of this organization has predicted a further collapse in the gasoline market coupled with a reduction in the gasoline tankwagon and crude price schedules in the near future. This attitude has apparently found favor with many of the buyers and there is less optimism regarding the August gasoline market than there was a week ago.

Relative to predictions in crude and tankwagon markets, market observers are agreed that it is a mistake to discount these possible fall developments in the August market. Few believe there will be any general changes in crude and gasoline tankwagon schedules before the latter part of September. With considerable gasoline on hand—stored for the summer demand—it is reasonable to assume that the major marketing organizations will want to take advantage of this maximum consuming period to reduce their inventories at a price in line with cost of the material which was refined from crude purchased at present schedules. Those who point out that tankwagon prices declined generally in August of last year overlook the fact that the crude and gasoline statistical situation is better this year than last.

REFINED MARKET BAROMETER

Developments in refined markets during the past week throughout the United States were somewhat mixed. Gasolines were generally firm with a heavy movement from refiners to domestic buyers. Mid-Continent sellers, however, did not have as large a demand as the last week in July. A reactionary development was also apparent in kerosene at interior points although prices were advanced both on domestic and export grades in the East. California kerosene prices were revised downward. A firm or advancing market was reported on practically all grades of fuel oils including distillates and gas oils. Buyers were actively seeking all grades of fuels for fall and winter delivery. There were no general changes in lubricating oils. Wax prices were firm.

Mid-Continent—Gasolines and kerosenes demand slower with only minor changes in prices. Strong demand for fuel oil, distillates and gas oils especially in north Texas, Oklahoma and Kansas with prices advanced on many grades. Lubricating oils and wax unchanged.

Atlantic Seaboard—Gasoline market steady with heavy movement. Kerosenes strong reflected in ½ cent advance in export and domestic grades. Lubricating oils irregular with strong demand for cylinder oils. Other grades sluggish. Wax firm.

Pennsylvania—Bright stock and Pennsylvania flash advance ½ cent. Kerosenes higher. Gasolines steady. Wax firm.

California—Large export of gasolines. Kerosene prices reduced slightly. Good demand for distillates. Natural gasoline demand exceeds supply.

Gulf Coast—Gas oil advanced. Other products unchanged.

Chicago—Slow up in gasoline and kerosene demand. Fuel oil, distillates and gas oils higher.

Stable Gasoline Prices

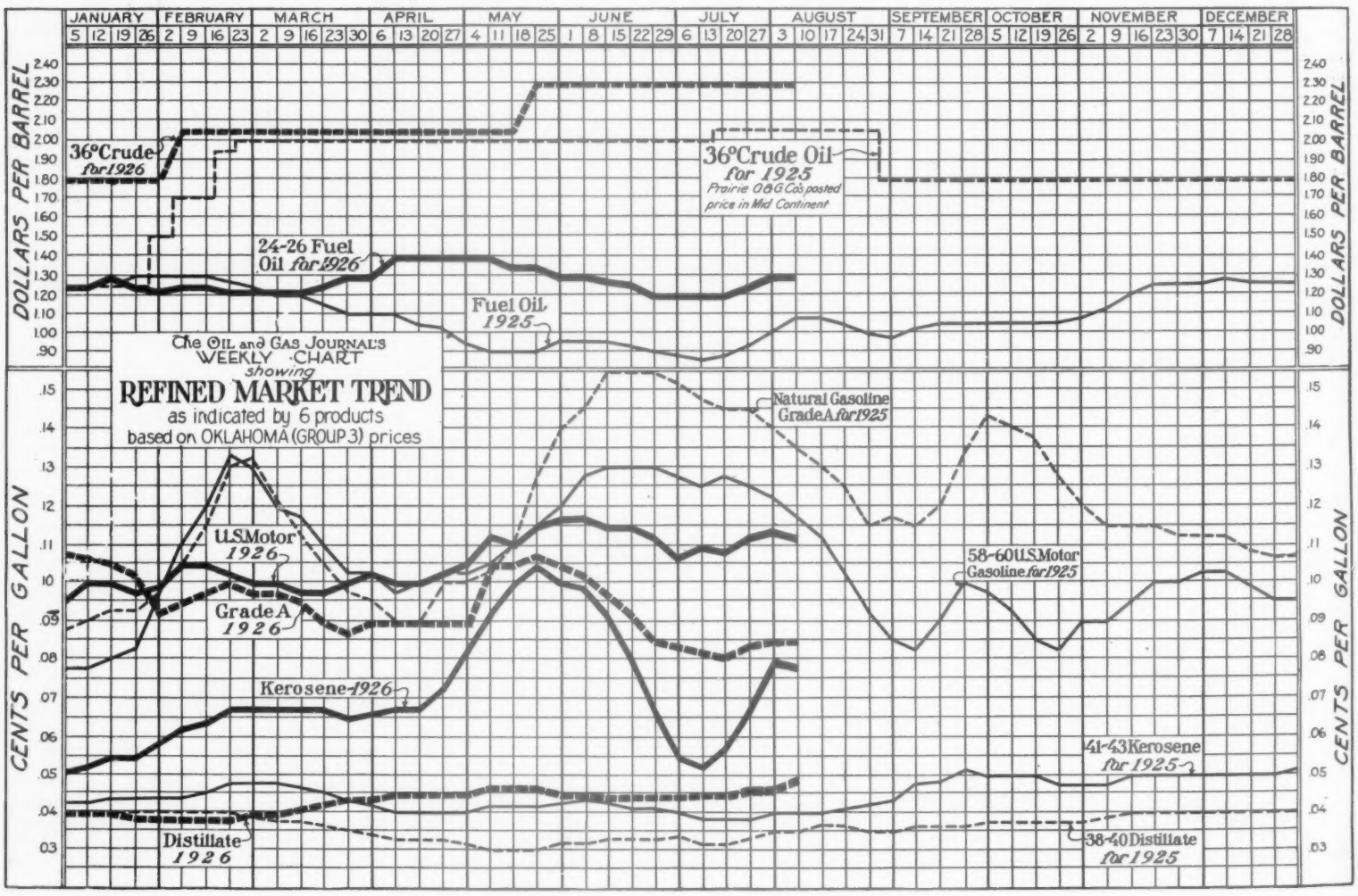
Still another situation pointed by market students has to do with the fact that there has been little fluctuation in gasoline prices this year regardless of developments in crude and tankwagon schedules together with the fact that gasoline prices are already low in relation to the crude schedules. This relative situation between the crude schedules and the refined market has been one of the outstanding developments of the market this year.

In the past it has been the rule to see the refinery market fluctuate rapidly up and down as the crude market weakened or stiffened. Since last November, however, in Oklahoma the fluctuation in U. S. Motor gasoline has only been 2¼ cents—from a low of 9½ cents to a high of 11¾ cents. In contrast the first half of last year the same grade fluctuated between a low of 7¾ cents to a high of 13 cents. The crude advances in February and May of this year amounting to 50 cents a barrel on the representative grade of 36 gravity crude brought only minor changes in the gasoline refinery market.

This relatively stable gasoline market at the refineries can be explained in part as a development of great flexibility in plant operations. The addition of cracking units and other improvements in refinery processing has made it possible for the refiner to more easily shift his operations in line with the demand for the several products he manufactures.

It is true that the Mid-Continent refiner is constantly obtaining more gasoline from a barrel of crude. This simply means, however, that he is less and less dependent on the cost of his raw material in operating his plant at a profit. This goes back to the conceded economic truth that the greater the volume of a marketable product secured from a given amount of raw material, the less the importance of price fluctuations in the raw material. This rule of course does not apply except

(Continued on Page 127)


JANUARY FEBRUARY MARCH APRIL MAY JUNE JULY AUGUST SEPTEMBER OCTOBER NOVEMBER DECEMBER
DOLLARS PER BARREL
CENTS PER GALLON
36°Crude for 1926
36°Crude Oil for 1925
Prairie O&G Co's posted price in Mid Continent
24-26 Fuel Oil for 1926
Fuel Oil 1925
The Oil and Gas Journal's WEEKLY CHART showing
REFINED MARKET TREND
as indicated by 6 products based on OKLAHOMA (GROUP 3) prices
Natural Gasoline Grade A for 1925
U.S.Motor 1926
Grade A 1926
58-60 U.S.Motor Gasoline for 1925
Kerosene 1926
41-43 Kerosene for 1925
Distillate 1926
38-40 Distillate for 1925

Air-Gas Lift Installations Increasing

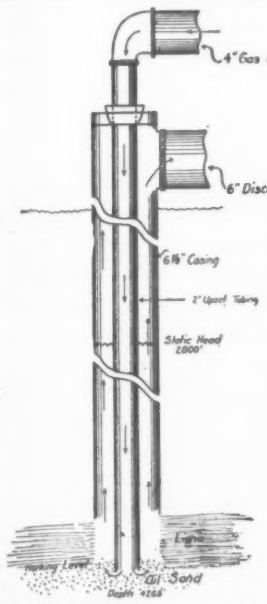
Success of Method Now Being Employed Extensively in the Mid-Continent is Attracting Attention of Operators

By J. L. Dwyer

A most extensive innovation and radical departure from established oil field operating methods is found in the air-gas lift for flowing oil wells in the Mid-Continent Field.

Replacing, or at least threatening to replace the pumping apparatus which has held sway since the inception of oil well drilling, this system of production commands immeasurable attention from the producers and their officials.

Engineering skill during the past 10 years has developed immeasurable refinements which have been added to the old style pumping equipment, but the finding of production in sands at a depth of 4,000 feet is responsible for the introduction of the air-gas system. The difficulties in handling oil from these deep sands caused a receptive attitude for this method.



In this installation, the air or gas is introduced into the tubing, and the oil is discharged in the space between the tubing and the casing.

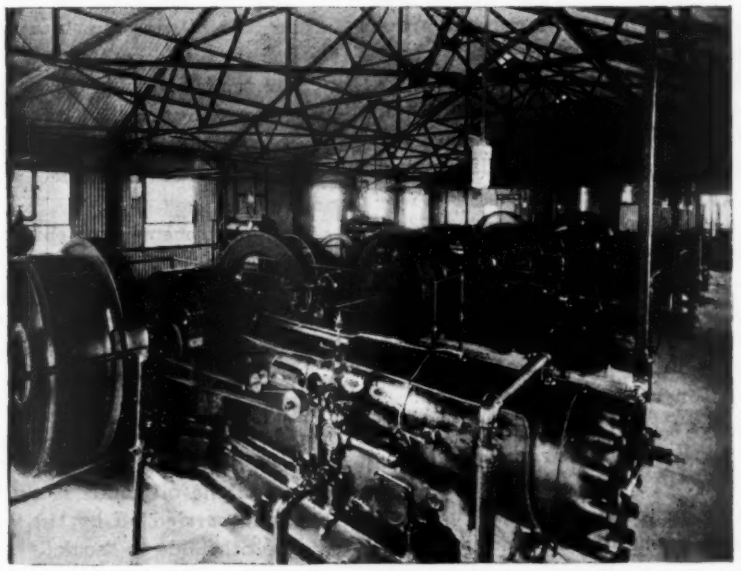
The Tonkawa deep sand area in Oklahoma offered a very good opportunity for trying out the air-gas lift. Getting the oil from the wells after they had stopped flowing was found to be a costly and troublesome proposition. The chief method of production was swabbing. This was found to be both expensive and annoying. The necessity of maintaining a crew of a cleanout driller and a helper, and using a boiler to furnish the steam required to pull the swab was found to average $60 per day. This amount alone, without any allowances for lease overhead and supervision eliminated the practice from wells of small yield. The other obstacle in swabbing the wells was unfavorable weather conditions. During the rainy or snowy seasons, the wells were not swabbed regularly. The irregular operation caused a loss of production which greatly reduced the profits.

Pumping Difficulties

When the deep sand wells in this field were pumped, much difficulty was experienced with working barrels and cups. The barrels sanded up, and the cups found the work of handling the fluid very difficult. From figures obtained on deep pumping wells in this field, an average operating time of nine days was found before it became necessary to pull the tubing and rods, (or at least the rods), and change the cups. This meant that the average yield per well could only be measured by the monthly production; for the wells would produce for nine days, and then one day would be lost in pulling.

These factors in operating the deep wells at Tonkawa led to the introduction of the air-gas system. Although the principles are simple, the installation is quite complicated, and the best results have been obtained when men thoroughly familiar with these details have been engaged in equipping the wells. There are dozens of variations in "hooking up" the wells, and they are based upon the varying conditions encountered. In considering this method of producing, it might be said, that each single well must be treated individually, and no set practice nor single pressure can be promulgated for general adoption.

There are two divisions of this system, one requiring the use of compressed air, and the other the use of compressed gas. The gas method is preferable, and so far has been used in all installations where gas is available. When gas cannot be obtained, air is used.



A view of a compressor house in the Tonkawa Field.

Type of Equipment

The type of equipment necessary is a compressor and an engine. The air or gas is compressed, and sent to the bottom of the well and liberated into the producing sand. Its force causes the oil to enter the bottom of the tubing, and flow to the top of the hole. When gas is used, it has been found advantageous to dovetail two branches of the oil companies, the production and natural gasoline departments. When a natural gasoline plant is adjacent to the leases, the residue or tail gas from the plant may be used, and in employing this gas, a double advantage is found. The residue gas in several instances had a gasoline content of .2 per cent per thousand feet. After being sent to the bottom of the hole, and being mixed with the oil during its passage through a section of the sand and thence to the separators, and back to the gasoline plant, it was found to contain 1.5 per cent gasoline per thousand feet. In the instances considered, (and they cover several installations), the oil production was increased, and the recovery of gasoline produced was also increased. It must be remembered that the same gas may be re-cycled over and over again.

There are two ways of handling the gas or air; the first is to introduce it into the top of the tubing, and use the space between the tubing and the casing as an outlet for the fluid; the other is to introduce the air or gas into the space between the tubing and the casing, and use the tubing for an outlet. The former method is used where the wells have a high static head of fluid, and the latter where the oil fills up a small portion of the tubing. The only theory advanced is that where the oil fills a considerable portion of the tubing, volume is required in the outlet, and where the oil fills only a small section of the tubing, pressure is necessary. The pressures used in wells in Oklahoma and Kansas range from 200 to 400 pounds. A working pressure of 300 pounds might be termed average in these wells. A discharge pressure of 15 pounds is generally used. In attempting to determine the average cubic feet of air necessary to flow one gallon of oil, information is very meager. One installation in a field where the oil is very heavy and of low gravity, requires 3.14 cubic feet per gallon, and in an installation made in a high gravity field, an average of .87 cubic feet per gallon is used.

Meeting With Success

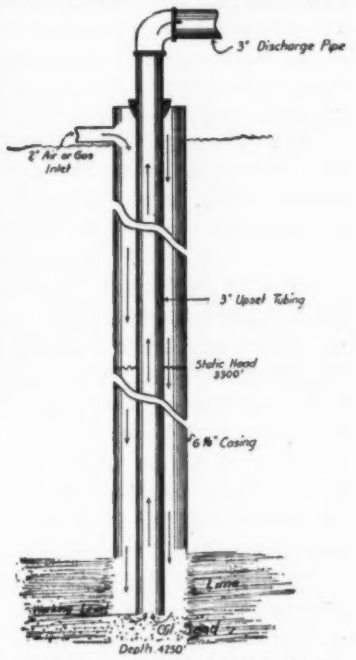
This process is still in the experimental stage, as less than eight months have elapsed since the first unit was installed in Oklahoma; consequently a very limited amount of information is available. The past three months have witnessed the greatest activity in making illustrations, and today in Oklahoma and Kansas about 190 wells are being flowed by this method. Treated rather skeptically at first, the system is meeting with success. One lease in the Tonkawa Field was increased from a daily production of 7,000 bbls. to 12,000 bbls. by the installation of 19 units. In the Garber Field, production of one lease was increased 4,000 bbls. by equipping 10 wells. At the Wewoka deep sand field, the production of one lease was maintained at a figure of 5,200 bbls., while the adjoining lease which was being pumped produced only 1,100 bbls.

There is a growing inclination to increase scientific attention to the details of this method which was first evidenced when engineers began to study the flows of various wells with different sizes of tubing and casing. In observing the actions of wells, much consideration is given to these pipe sizes, and their effect upon the production is the cause of considerable study. Some of the most successful installations use 3-inch tubing at the bottom of the well. One thousand feet of this size tubing is used, and then the size is increased to 3½ inches. The size of the tubing is increased one-half inch every 1,000 feet of hole, and 4½-inch tubing is used at the top of the well.

The reason for the various sizes of tubing is the expansion of air as it rises in the hole. By increasing the size towards the top, the velocity in feet per second is kept constant. This has a tendency to reduce friction, and permits a maximum energy.

Gas Separator Used

The arranging of a trap or gas separator about 30 feet up in the derrick has been found very satisfactory. This method eliminates the necessity of a back pressure on the well, and it permits a gravity flow of the oil to the stock tanks. By permitting a straight flow, all the usual angles in pipe turns are unnecessary. In regular connections, one finds a 90 degree T at the top of the casing, one or two more 90 degree Ts with possibly a 45 degree T between the casinghead and the flow tank, two and possibly three more Ts making up the riser where the oil enters the tank. It will be seen that at each T the fluid encounters additional friction which reduces the energy. Placing the tank in the derrick removes this. Wells using this process have increased their flow by changing the pipe fittings from 90 to 45 degree Ts with the consequent reduction of friction. In rigging up wells with this equipment it seems advisable to limit the angles in the line of flow as much as possible.



In this installation, the air or gas is introduced between the tubing and the casing, and the oil is discharged through the tubing.

Air-gas lifts have been installed in the Garber, Tonkawa, Braman and Yale Fields in Oklahoma, and in Winfield, Rainbow Bend and Oxford Pools in Kansas. As gas is available in most of these

(Continued on Page 125)

DOLLARS PER BARREL CENTS PER GALLON

Can 40 Billion Barrels of Oil Locked in Sa

Successful Experiments in Laboratory and at Bradfo hould Petroleum Industry in Every Proven Field. Proce Feas

*By Phillip Kates**

The history of the oil business has been a story of flood and drouth; a sudden rush of oil, and then a frenzied fear that the wells would soon dry up. A stabilizing factor; a reasonable assurance that a permanent and steady supply of crude would be available over a long period of time, subject to control as demand increases or slackens; held back in times of flush production from a major pool, and released as the new wells decline, has heretofore been wanting.

Just now we are in a period of ample supply. With daily production passing the 2,000,000-bbl. mark; with improved methods of refining increasing the amount of major products, gasoline, kerosene, lubricants and fuel oil that can be recovered from a barrel of crude, it would seem to appear that our concern should be the stimulation of consumption, and improved systems of distribution, rather than the question of supply.

Industry's Real Problem

But the real problem of the industry still looms on the horizon; what to do if the present expanded supply stimulates a still greater permanent demand, and sufficient major sources of supply are not found. Scientifically the production of a substitute for gasoline is possible; but commercially, the discovery does not appear imminent. Nor would it be desirable for the cause of general prosperity to see vast masses of the fixed capital of the nation, now represented in the hundreds of thousands of oil wells, the pipelines, refineries and distributing stations become valueless; which would result from a sudden substitution of snythetic gasoline; for the economic readjustment upon such a change would disarrange the whole fabric of national industry and finance. It may be said in all seriousness, that not only an adequate supply of crude, but the stabilization of the oil industry, is one of the major problems of continuing prosperity for the country.

We may hope that the distant, not the near future, will bring the substitute. What the nation needs now is an assured, steady supply of oil. An adequate supply would bring general industrial contraction; a period of overproduction brings demoralization.

Permanent Supply at Hand?

A vast amount of oil remains in the ground, which has heretofore been considered not recoverable. The amount, of course, is not accurately known, though the estimates have run as high as 30,000,000,000 bbls. A recent announcement of the United States Gelogical Survey would appear to indicate that there is reasonable ground to hope that most of this locked-up oil may be freed for use. A future permanent and determined supply may be at hand. If so, the development of a substitute may be postponed to the future, and the scientific labors of the oil industry devoted to devising practical means of unlocking this vast store.

If this can be done, the oil industry today stands at the threshold of a period of great expansion; an expansion based not on a temporary increase of petroleum, which may vanish as soon as it comes and leave the industry to contract in panic, but based upon a sure foundation that will make it more solid than it has ever been.

Possibly the lagging of oil securities in a general bull market may be due to a vague fear in the mind of the investing public of the permanency over a long period of time of the supply of its basic staple: crude oil. For present earnings are impressive.

Subject A. P. I. Should Consider

The American Petroleum Institute will meet at Tulsa on December 7 to discuss the problems of the industry. No more important subject can engage its attention than a consideration of the possible results of the discovery of Dr. P. G. Nutting, geophysicist of the United States Geological Survey. If investigation confirms the apparent possibilities of this discovery, the Institute may lay before the industry a program for years of constructive work.

Doctor Nutting appears to have found a means of recovering billions of barrels of petroleum hitherto considered not recoverable. Statistics show that almost 9,000,000,000 bbls. of oil have been removed from the fields of the United States. In its bulletin of the Smith-Dunn process for applying air to increase recovery from oil wells, the Bureau of Mines some time ago estimated that under ordinary methods of recovery, such as are commonly in use, between 10 and 20 per cent only of the oil deposits could be brought to the surface. Reports from Washington say that the United States Geological Survey estimates that with the application of air and water, the recoverable amount would be about one-third. With the new process it is theoretically possible to recover all of the oil in every field, except where local conditions make the use of the process impossible. This means, if the estimates are correct, that literally billions of barrels of petroleum, definitely located, are waiting to be made available for use. The estimates indicate an assured supply for years, even if no new major fields are found.

Possibilities Are Amazing

The possibilities are amazing, but the discovery itself is simple. It is merely the introducton of sodium carbonate dissolved in water, into the sand, followed by the flooding process. Sodium carbonate is common washing soda, the "soda ash" that is also used in the manufacture of glass. It is sold as cheap as 1 cent a pound, and the supply is inexhaustible. And the machinery required is cheap and simple.

The announcement of this discovery, just made, says: "During the winter of 1925, a search was started by Doctor Nutting in the United States Geological Survey laboratories for an efficient, harmless, inexpensive chemical that would creep between petroleum and silica, wetted by it, thus releasing the oil." And that chemical was found to be washing soda.

When clothes are put to soak in water containing washing soda, the dirt is loosened from the fabric, and the dirt is removed by agitating the water. The operation of sodium carbonate in solution, upon the oil sands is the same; the oil is loosened from the silica, and carried off by the water. Doctor Nutting is simply putting the oil fields to "soak."

Makes Possible Dream of Years

Stated in simple terms, this discovery seems commonplace. But if practicable in many fields, it bids fair to be a most important forward step in the petroleum industry. For it makes possible that dream which oil men have always felt could never come true: The recovery for commercial use, at reasonable cost, of the oil locked in the sand.

Every particle of sand contains a film of oil which neither water nor air would remove. When it was discovered that a salt with a strong base and weak acid would get in between the surface of the sand particle and the film of oil, the answer was at hand. The sand could be compelled to give up its tight hold on the oil, and with the oil thus freed, the remaining problem was to find means to force it into the well cavities from which it may be lifted to the surface. This is done by flooding.

But while laboratory tests might demonstrate the possibility of complete recovery from the oil sands, the practical proof of the test required field work. So the Bradford Field in Pennsylvania was selected. It was estimated that from 25,000 to 35,000 bbls. to the acre remained in that field, or about 2,000,000,000 bbls. in all. And here, since August, 1925, the work of testing the theory has

*First of a series of articles by a Tulsa attorney who has made a study of the petroleum industry.

Sands of North America Be Recovered?

hould Be Followed by Active Co-Operation of Entire Feasible, Means a Vast Reserve Supply of Crude

been going on. In simple language, a solution of washing soda is poured down certain selected wells, and then water introduced at a constant pressure, thus forming a wall of soda solution followed by the usual flood. It was first feared that the salt water in the sands might interfere with the normal action of the soda; the calcium chloride, combining with sodium carbonate, forming sodium chloride and calcium carbonate. Calcium carbonate being like ordinary limestone, if that were formed in appreciable quantities the sand would become clogged and cemented, and in the presence of brines, the process would be practically ineffective. But laboratory experiments indicate that this factor is not serious.

The work of Paul Torrey, studying the geologic factors affecting the recovery process, indicates that the nature of the structures in which the sands occur, may have some effect on the work, and that the water wells should be located with reference to the underground geologic conditions rather than spaced arbitrarily as has heretofore been done. However, on July 1, the Geological Survey was without further funds to continue the work, and it is being carried on with the assistance of the producers in the field.

Field Work at Bradford

The field work at Bradford has demonstrated the practical value of the process only in that field; for conditions there are ideal for the experiment. The sand conditions are right, and there are no water problems to be solved. In many fields the presence of excessive salt water in the sands themselves will raise difficulties that will require more than the results of the Bradford experiment for their solution. But the primary condition to the success of any system of recovery has been met; the loosening of the hitherto unrecoverable oil from the sand particles. The work ahead is not discussion as to whether the method would be successful in this or that field, but study and experiment. And many preliminary questions must be settled before field work can begin. The arranging of satisfactory working agreements between the lease owners in a determined field; the presence of sufficient water from surface or subsurface accumulation; the legal rights of lessees and landowners, as well as local statutory restrictions. In Pennsylvania a special statute applying only to the Bradford Field was passed to permit the work to be done. So these matters, while difficult, are not always insurmountable.

Demands Survey of National Scope

The importance of the matter demands a survey national in scope, by which it may be determined what local difficulties that present themselves are in fact unsolvable after the best study that can be given them, with the aid of the whole experience of the industry.

As the work at Bradford has demonstrated the practical value of the process in that field, so the laboratory work of Doctor Nutting shows that the process would be, theoretically at least, successful in every field and with both light and heavy oils, except for sand and water conditions that obviously cannot be studied except from a specific survey of each field. But the scientific investigation so far made, together with the success of the field work, should command the instant attention of the whole petroleum industry.

While the study of the effect upon oil sands, of salts with a strong base and weak acid had been carried on for some time, the process now evolved is considered by the Geological Survey as being sufficiently novel to be patentable; and an application for a patent has been made, which will be taken out by the government, and its use will be under contracts carrying a small royalty which will be devoted to further research. This will both assure proper governmental supervision, which it can provide for in its contracts as a patentee, but which it might not otherwise be able to exercise; and will protect the industry from exploitation by promoters whose extravagant claims could not be realized.

But the research should not depend upon the accumulation of royalty funds, nor governmental initiative. The oil industry itself can undertake the work, and no more important research can be made. As it is of national and not local import, it might well be carried on by the American Petroleum Institute, in conjunction with the larger companies.

Some small shallow pool as at Nowata or Inola might be first selected, for there a whole pool might be secured with one owner, or the few owners could easily be induced to enter into the proper working agreements. The Glen Pool offers an ideal field for larger investigation; but the organization of the lease owners and land owners, the charting of the sands and the proper location of the water wells would require much time and labor. But if the matter is to be handled in a proper way, that work should be undertaken by the institute in conjunction with the Government, so that the methods of organization and preliminary work can be used as a model in other fields.

But the immediate labor, to which the industry should devote itself, is a survey of the older fields. The well records and fairly accurate geological data are now available for all the oil fields in the country, and it would be possible to assemble the data as to subsurface conditions in every field. It will be possible to see, with some accuracy, the actual amount of oil that is in the gorund. It will be possible to study the nature and porosity of the sands. It will be possible to study water conditions both in the sands themselves, and as to accumulations of subsurface water available for operations. It will be possible to determine the geologic conditions that may aid or hamper the work of recovery. In other words, it will be possible for the oil industry to show to the world this vast treasure house of petroleum, and that it has in its hands the key to unlock the door.

A Great Stabilizing Force

Subsurface geology has reached the point where, from comparison of well logs, and a study of the sands, accurate charts of the oil horizons of every field can be constructed, and without any unreasonable expenditure of time or money. If these charts were assembled, the peculiarities of each field can be studied, and with an adequate central laboratory, in which proper tests can be made, a method of operation suited to any field worked out.

There would probably be no greater stabilizing force for the industry than the demonstration to the world that the oil fields of the United States are not temporary sources of revenue, but permanent sources of national wealth. For if there be billions of barrels of oil which heretofore has been considered not available for consumption which is now recoverable when and as needed, the oil industry of the nation will be steady and assured.

The announcement of the discovery sounds rather like the dream of a visionary than the verdict of science. While the experiments naturally have not demonstrated the possibility of complete recovery in all fields, they have progressed to the point that the oil industry of the nation should enthusiastically co-operate by assembling the data necessary for further scientific investigation. For science, to be helpful in business, must proceed on information, not theory. Speculative philosophy may proceed on the inductive method; but hard-headed business proceeds upon deduction from proven facts.

The cost of drilling operations in the United States is estimated to be over $500,000,000 per year. None of our modern corporations

(Continued on Page 123)

XUM

Analyses Made of Panhandle Crude Oil

Samples From Different Wells in the Field Show the Essential Characteristics of the Petroleum of That Area

By C. K. Francis, Ph. D.*

It is well known that the physical and chemical properties of petroleum vary in different pools, frequently they are found to differ from lease to lease and occasionally from well to well in the same pool. So strongly is this fixed in the mind of the producer that it has become the universal practice with the bringing in of a new well to immediately determine its character. Usually this examination is confined to the observation of color, odor and gravity and should any of these be abnormal a more searching investigation is made.

The size of the State of Texas, including the somewhat comprehensive nature of its offsets, is so great and the geological conditions so varied that we have not been lacking in a supply of problems associated with the properties of the crude found there. Many of the investigations have furnished the refiner with facts which have enabled him to produce special and superior products from the oil from certain districts of Texas. The Gulf Coast crudes, for example, being free from paraffin are valued for their lubricating stock from which are manufactured superior grades of low cold test motor oils. The oils of central Texas are commonly of the mixed base type, containing both paraffin wax and asphalt. However, when the oil stored below the western plains of the State, known as the Panhandle, was brought to the surface there was inaugurated what promises to be the most difficult refining problem ever presented in a crude oil. The Lima oil of Ohio gave us the original sulphur problem, now the Amarillo crude contains not only an abnormal quantity of sulphur, but also so much wax that the oil solidifies at the ordinary normal temperature and some of the oil contains water and salt enough to constitute an additional vexing problem.

A High Grade Petroleum

While these objectionable features of the Amarillo crude present problems of a major nature, the normal petroleum products may be separated from it in quantities sufficient to merit its classification among the high grade petroleums of the world. The successful purification of the products is a mere question of time. The commercial value is there and the economic importance must inevitably spur on the scientific refiner to devising means for satisfactory refining.

The analyses which are presented here were made in the laboratories of the Skelly Oil Co. and are believed to be fairly representative of the Panhandle district at this time.

Direct distillations were made without the aid of steam, on the entire lot of samples and then several were again examined by the fire and steam method. It was necessary to omit the sample from can No. 12 because of the presence of an excessive quantity of water.

Dry Distillations

SAMPLE NO. 1
Lab. No. 7-2-26

From Skelly Oil Co.'s No. 1 Burnett, in the NE NE, Section 93, Block 5, I. & G. N. Ry. Survey, Carson County, Texas. Well pumping. Total depth, 3,097 feet; elevation, 3,178 feet. Sample taken from flow tank.

Gravity of crude—37.9 A.P.I.
Color—greenish brown.
Odor—gasoline.
B.s.—0.8 per cent.
Pour—55 degrees Fahrenheit.
Sulphur—0.535 per cent.

Dry Distillation

Temp. °F.	Per Cent Cut	Sum Per Cent Cut	A.P.I. Cut
Up to 188	5	5	81.0
188-228	5	10	69.5
228-264	5	15	63.8
264-304	5	20	58.2
304-606	30	50	37.7
606-660	20	70	34.6
660-668	5	75	37.0
		Per Cent	A.P.I.
Gasoline		32.6	59.4
Kerosene		11.0	41.4
Gas oil		31.0	34.7
Fuel oil		23.9	20.0
Loss		1.5	

Considerable cracking took place while running in gas oil. Hydrogen sulphide was given off during distillation.

SAMPLE NO. 2
Lab. No. 7-3-26

From Whittington No. 1 Sanford, Section 82, Block 46, H. & T. C. Ry. Survey, Hutchinson County, Texas. Total depth, 3,240 feet; elevation, 3,130 feet; pay formation, 3,076-3,118 feet. Sample taken from flow tank.

Gravity of crude—32.6 A.P.I.
Color—greenish brown.
Odor—gasoline.
B.s.—0.1 per cent.
Pour—70 degrees Fahrenheit.
Sulphur—0.734 per cent.

Dry Distillation

Temp. °F.	Per Cent Cut	Sum Per Cent Cut	A.P.I. Cut
Up to 296	5	5	61.1
296-342	5	10	56.4
342-394	5	15	51.1
394-452	5	20	46.8
452-626	30	50	36.7
626-688	20	70	34.3
688-686	5	75	35.0
		Per Cent	A.P.I.
Gasoline		19.4	53.9
Kerosene		7.5	41.4
Gas oil		47.9	35.7
Fuel Oil		24.0	20.5
Loss		1.2	

Cracking took place as shown by distillation. Hydrogen sulphide was given off during distillation.

SAMPLE NO. 3
Lab. No. 7-4-26

Skelly Oil Co.'s No. 1 Cunningham, on the Johnson farm, located in the SW of Section 4, Block B-4, Hutchinson County, Texas. Swabbing; total depth, 2,976 feet. Sample taken from flow tank.

Gravity of crude—40.0.
Color—dark green.
Odor—Hydrogen sulphide and gasoline.
B.s.—0.1 per cent.
Pour—60 degrees Fahrenheit.
I.B.P.—106.

Dry Distillation

Temp. °F.	Per Cent Cut	Sum Per Cent Cut	A.P.I. Cut
Up to 168	5	5	85.3
168-250	10	15	73.1
250-294	5	20	59.0
294-591	30	50	38.1
591-685	20	70	36.2
685-736	5	75	34.4
		Per Cent	A.P.I.
Gasoline		33.6	60.0
Kerosene		6.2	41.7
Gas oil		33.8	35.9
Fuel oil		24.4	22.4
Loss		2.0	

Some cracking took place while running in gas oil as shown by increase in gravity of stream.

As the distillation range is low on the gasoline, no doubt a slightly higher percentage of gasoline could be obtained with higher endpoints. A higher yield of lower gravity kerosene could also be cut.

Hydrogen sulphide was given off during distillation.

SAMPLE NO. 4
Lab. No. 7-5-26

Palo Duro Oil Co.'s No. 1 Smith, located in the SE cor. of NW, Section 6, Block Y, Hutchinson County, Texas. Well flowing. Sample taken from flow line. Shot 210 quarts, 2,780-2,858 feet.

Gravity of crude—36.3.
Color—greenish brown.
Odor—hydrogen sulphide and gasoline
B.s.—0.1 per cent.
Pour—70 degrees Fahrenheit.
Sulphur—0.675 per cent.

Dry Distillation

Temp. °F.	Per Cent Cut	Sum Per Cent Cut	A.P.I. Cut
Up to 242	5	5	68.5
242-324	10	15	56.9
324-367	5	20	51.9
367-624	30	50	37.4
624-708	25	75	35.0
708-712	5	80	34.8
		Per Cent	A.P.I.
Gasoline		27.2	54.9
Kerosene		9.9	41.3
Gas oil		42.9	35.6
Fuel oil		18.2	21.4
Loss		1.8	

Cracking took place as shown by distillation. Hydrogen sulphide was given off during distillation.

SAMPLE NO. 5
Lab. No. 7-6-26

New Domain Oil & Gas Co.'s No. 1, located in the NE cor. of NW NE, Section 33, Block Y, Hutchinson County, Texas. Well flowing. Sample taken from flow tank. Total depth, 3,090 feet; elevation, 3,203 feet.

Gravity of crude—35.2.
Color—greenish brown.
Odor—hydrogen sulphide and gasoline.
B.s.—0.3 per cent.
Pour—65 degrees Fahrenheit.
Sulphur—0.625 per cent.

Dry Distillation

Temp. °F.	Per Cent Cut	Sum Per Cent Cut	A.P.I. Cut
Up to 212	5	5	69.2
212-316	10	15	57.3
316-360	5	20	54.1
360-601	30	50	37.7
601-694	20	70	33.3
694-702	5	75	32.9
		Per Cent	A.P.I.
Gasoline		28.5	57.1
Kerosene		11.0	41.1
Gas oil		34.3	35.3
Fuel oil		24.7	17.1
Loss		1.5	

Cracking took place as shown by the stream gravity. Hydrogen sulphide was given off during the distillation.

SAMPLE NO. 6
Lab. No. 7-7-26

Lennix-Pattison's No. 1 Smith, located in the NW SW, Section 11, Block Y, Hutchinson County, Texas. Well flowing. Pay formation, 2,912-3,005 feet; elevation, 3,037 feet. Well has been shot. Now flowing 1,500 bbls. Sample taken from flow tank.

Gravity of crude—38.9.
Color—dark green.
Odor—hydrogen sulphide and gasoline.
B.s.—0.1 per cent.
Pour—65 degrees Fahrenheit.
Sulphur—0.646 per cent.

Dry Distillation

Temp. °F.	Per Cent Cut	Sum Per Cent Cut	A.P.I. Cut
Up to 174	5	5	80.8
174-272	10	15	61.5
272-301	5	20	57.8
301-574	30	50	38.6
574-716	35	85	35.8
716-734	5	90	32.1

Hydrogen sulphide was given off during the distillation. Some cracking took place as shown by the gas oil gravities.

SAMPLE NO. 7
Lab. No. 7-8-26

Amarillo Oil Co.'s No. 1 Warrick, located in the SE of NW, Section 16, Block Y-2, Potter County, Texas. Well pumping. Sample taken from flow tank. Total depth, 3,100 feet; elevation, 3,213 feet.

Gravity of crude—36.1.
Color—dark green.
Odor—gasoline.
B.s.—1.7 per cent.
Pour—65 degrees Fahrenheit.
Sulphur—0.342 per cent.

Dry Distillation

Temp. °F.	Per Cent Cut	Sum Per Cent Cut	A.P.I. Cut
Up to 184	5	5	77.3
184-308	10	15	57.1
308-358	5	20	52.6
358-606	30	50	37.7
606-680	25	75	33.3
680-682	5	80	32.2
		Per Cent	A.P.I.
Gasoline		28.0	57.7
Kerosene		12.2	41.0
Gas oil		38.2	34.8
Fuel Oil		20.0	18.1
Loss		1.6	

There was 5.3 per cent of water in the oil besides the 1.7 per cent b.s. Analysis was made on settled sample. Cracking took place at last of run as shown by the drop in temperature and increase in stream gravity. The gasoline from this crude was noticeably off color even after rerunning the benzine. Hydrogen sulphide was given off during the distillation.

SAMPLE NO. 8
Lab. No. 7-9-26

Barnum No. 1 Johnson, located in the SE cor. of W half of NW, Section 37, Block Y, Hutchinson County, Texas. Elevation, 3,111 feet; pay formation, 3,010-30 feet. Shot July 11, 1926, with 60 quarts. Sample taken direct from well with bailer.

Gravity of crude—35.9.
Color—dark green.
Odor—hydrogen sulphide and gasoline.
B.s.—0.1 per cent.
Pour—70 degrees Fahrenheit.
Sulphur—0.56 per cent.

Dry Distillation

Temp. °F.	Per Cent Cut	Sum Per Cent Cut	A.P.I. Cut
Up to 188	5	5	75.0
188-300	10	15	59.6
300-620	35	50	35.9
620-718	20	70	32.9
718-726	5	75	32.2
		Per Cent	A.P.I.
Gasoline		27.0	58.1
Kerosene		7.3	41.1
Gas oil		40.5	34.5
Fuel oil		24.0	18.6
Loss		1.2	

Hydrogen sulphide was given off during distillation.

SAMPLE NO. 9
Lab. No. 7-10-26

Dunnigan Oil Co.'s No. 1 Whittenburg, located in the SE cor. of the W half of SW, Section 13, Block Y, Hutchinson County, Texas. Well has been shot. Shot with 300 quarts from 2,938-3,015 feet. Sample taken from flow tank.

Crude gravity—39.6.
Color—dark green.
Odor—gasoline.
B.s.—0.1 per cent.
Pour—55 degrees Fahrenheit.
Sulphur—0.620 per cent.

Dry Distillation

Temp. °F.	Per Cent Cut	Sum Per Cent Cut	A.P.I. Cut
Up to 184	5	5	80.3
184-260	10	15	63.6
260-590	35	50	37.8
590-700	25	75	37.4
700-760	5	80	37.0
		Per Cent	A.P.I.
Gasoline		34.8	59.7
Kerosene		11.4	40.9
Gas oil		33.6	36.3
Fuel oil		18.3	18.8
Loss		2.0	

Hydrogen sulphide was given off during distillation and considerable cracking took place.

SAMPLE NO. 10
Lab. No. 7-11-26

Prairie Oil & Gas Co.'s No. 1-A Johnson, located in the SE of SW, Section 22, Block Y, Hutchinson County, Texas. Sample taken from flow tank. Do not consider this a good sample as informed by drillers that this oil had been swabbed from well and then returned and reswabbed the second time.

Crude gravity—27.3.
Color—brownish green.
Odor—gasoline.
B.s.—0.4 per cent.
Pour—85 degrees Fahrenheit.

Dry Distillation

Temp. °F.	Per Cent Cut	Sum Per Cent Cut	A.P.I. Cut
Up to 420	5	5	51.6
420-496	10	15	42.3
469-664	35	50	36.7

(Continued on Page 124)

DESCRIPTION OF AMARILLO, TEX., CRUDE SAMPLES

Sample No.	Company and Well Description—	Can No.
7- 2-26	Skelly Oil Co.'s No. 1 Burnett, NE NE Section 93, Block 5, I. & G. N. Ry. Survey, Carson County, Texas. Well pumping. Total depth, 3,097 feet; elevation, 3,178 feet. Sample taken from flow tank.	1
7- 3-26	Whittington's No. 1 Sandford, Section 82, Block 46, H. & T. C. Ry. Survey, Hutchinson County, Texas. Total depth, 3,240 feet; elevation, 3,130 feet; pay formation, 3,076-3,118 feet. Sample taken from flow tank.	2
7- 4-26	Skelly Oil Co.'s Cunningham No. 1 on the Johnson farm, located in the SW of Section 4, Block B-4, Hutchinson County, Texas. Swabbing; total depth, 2,976 feet. Sample taken from flow tank.	3
7- 5-26	Palo Duro Oil & Gas Co.'s No. 1 Smith, located in the SE cor. NW Section 6, Block Y, Hutchinson County, Texas. Well flowing. Sample taken from flow line. Shot 210 quarts 2,780-2,858 feet.	4
7- 6-25	New Domain Oil & Gas Co.'s No. 1, located in the NE cor. NW NE, Section 33, Block Y, Hutchinson County, Texas. Well flowing. Sample taken from flow tank. Total depth, 3,090 feet; elevation, 3,203 feet.	5
7- 7-26	Lennix-Pattison's No. 1 Smith, located in NW SW, Section 11, Block Y, Hutchinson County, Texas. Well flowing. Pay formation 2,912-3,005 feet. Elevation 3,037 feet. Well has been shot. Now flowing 1,500 bbls. Sample taken from flow tank.	6
7- 8-26	Amarillo Oil Co.'s No. 1 Warrick, located in the SE of NW, Section 16, Block Y-2, Potter County, Texas. Well pumping. Sample taken from flow tank. Total depth, 3,100 feet; elevation, 3,213 feet.	7
7- 9-26	Barnum's No. 1 Johnson, located in the SE cor. of W half of NW, Section 37, Block Y, Hutchinson County. Texas. Elevation, 3,111 feet; pay formation, 3,010-30 feet. Shot 7-11-26 with 70 quarts. Sample taken direct from well with bailer.	8
7-10-26	Dunnigan Oil Co.'s No. 1 Whittenberg, located in the SE cor. of W half of SW, Section 13, Block Y, Hutchinson County, Texas. Well has been shot with 300 quarts from 2,938-3 015 feet. Sample taken from flow tank.	9
7-11-26	Prairie Oil & Gas Co.'s No. 1-A Johnson, located in the SE of SW, Section 22, Block Y, Hutchinson County, Texas. Sample taken from flow tank. Do not consider this a good sample, as it is understood from drillers that this oil had been swabbed from well and then returned and reswabbed the second time.	10
7-12-26	Skelly Oil Co.'s No. 1 Whittenberg, Surplus Land, located in the NW cor. of Surplus Land, lying directly south of Section 62, Block 46, H. & T. C. Ry., Hutchinson County, Texas. This well had been shot. Sample taken from flow tank. Elevation, 2,978 feet; total depth, 2,212 feet.	11
7-13-26	The Texas Company's No. 1 Brown, located in Section 137, Block 3, I. & G. N., Gray County, Texas. Pay, 3,098-3,255 feet. Sample taken from bottom of tank.	12
7-14-26	Douglas Oil Co.'s No. 1 J. A. Whittenberg, located center SW SW, Section 15, Block XO2, Hutchinson County, Texas. Elevation, 3,132 feet; top of lime, 2,280 feet; total depth, 3,093 feet.	13
3- 6-26	Dixon Creek's No. 2 Smith, located in Section 1, Block 9, Hutchinson County. Texas.	14
2-12-26	Gibson Oil Co.'s No. 2 Whittington, located in NE cor. of Section 9, Block 27, H. & G. N. Ry., Wheeler County, Texas.	15

*Chief technologist Skelly Oil Co., and technical editor The Oil and Gas Journal.

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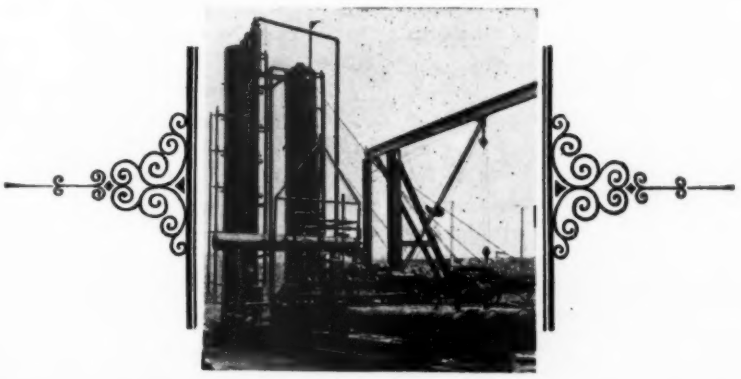

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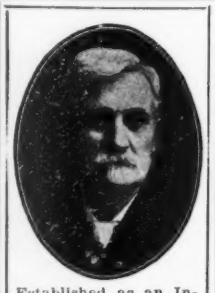

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AS MUCH MORE OIL?

If the soda ash process for recovering crude from the Bradford Field is as promising as the Government's protection of it by patent indicates it may prove the most important development the oil industry has yet seen.

It holds out the hope of recovering as much oil as has been produced in the entire United States since Drake's well. Perhaps two or three times as much.

This may seem extravagant but it is well known that water flooding is recovering twice as much from wells in the Bradford Field as before they were flooded; in some instances four and five times as much. The soda ash process is calculated as likely to free as much more oil from the sand.

It is agreed that in most fields only about 15 to 20 per cent of the oil in the sand is recovered by normal flowing or pumping. Flooding has produced another 15 per cent in Bradford. Two-thirds of the oil is still left in the ground. That is what the soda ash process has to work upon.

Although the United States Geological Survey experts who have been developing the process are extremely conservative in their statements, saying that while laboratory and field tests so far have justified the patenting of the process for the protection of the public from private exploitation, it is too early to predict results, practical oil men in the Bradford Field have thought enough of the experiments to continue the survey's investigation when the meagerness of the Government's appropriation was about to compel an abandonment.

What a commentary on governmental interest in the nation's oil supply!

While a Federal oil board, consisting of four members of the cabinet, was conducting an 18-months' inquiry into a supposed shortage and waste of oil; while the Senate was instructing the Federal Trade Commission to undertake another investigation of the industry, the Geological Survey was being forced by the lack of funds to drop oil field research that promised to show the way to produce as much oil from known sands as has been produced in the United States since the drilling of the first well.

Here was a study by a scientific bureau of the Government holding the promise of doubling our recovery of oil but it got so little support from Congress that the survey had to recall its men from the field until the oil producers there provided the means to continue it.

Imagine it! This great Government of ours having its work continued by private donation or not at all.

And the Geological Survey not given as much appropriation as is often wasted on a postoffice building at the forks of the road in any congressional district.

Washington wasting time and money theorizing about conservation and ordering new political investigations of the oil industry while two-thirds of the known oil in existing fields is left in the ground and the Government's own demonstration of possible means of recovery practically ignored.

There is the contrast between practical conservation and political conversation.

And those responsible for that state of affairs are the most active in criticising and condemning the oil industry.

It is a deplorable fact that the scientific bureaus of the Government, though attracting talented men by the prestige of Government service in practical research, have been notoriously unable to retain them because of the parsimonious policy of Congress in refusing to provide enough money to carry on the work.

This same picayunish policy is now responsible for obstructing the study of means of doubling our supply of recoverable oil while Washington rants about possible famine and waste.

The industry is constantly striving to squeeze the last drop of gasoline out of crude, doubling the recovery of motor fuel in a few years, and the producers are continually spending money, time and labor in improving production methods in the fields. What is Washington doing to promote conservation of our known oil resources when the opportunity is offered to aid promising research? Nothing except making speeches, ordering inquiries or holding investigations that never get anywhere.

It has wasted more money on investigations of the oil business that brought no results in the past 10 or 12 years than would have given the Geological Survey and Bureau of Mines enough funds to carry out every important research program they were engaged in.

This soda ash process is not the only instance where governmental research has been obstructed and delayed by lack of funds but in the magnitude of its possibilities and its value to the country in assuring a supply of motor power it is probably the most important.

We all know what the development of cracking and refinery improvements have done to increase our motor fuel supply but even that wonderful achievement would be eclipsed by the possibilities of greater recovery of crude from old fields.

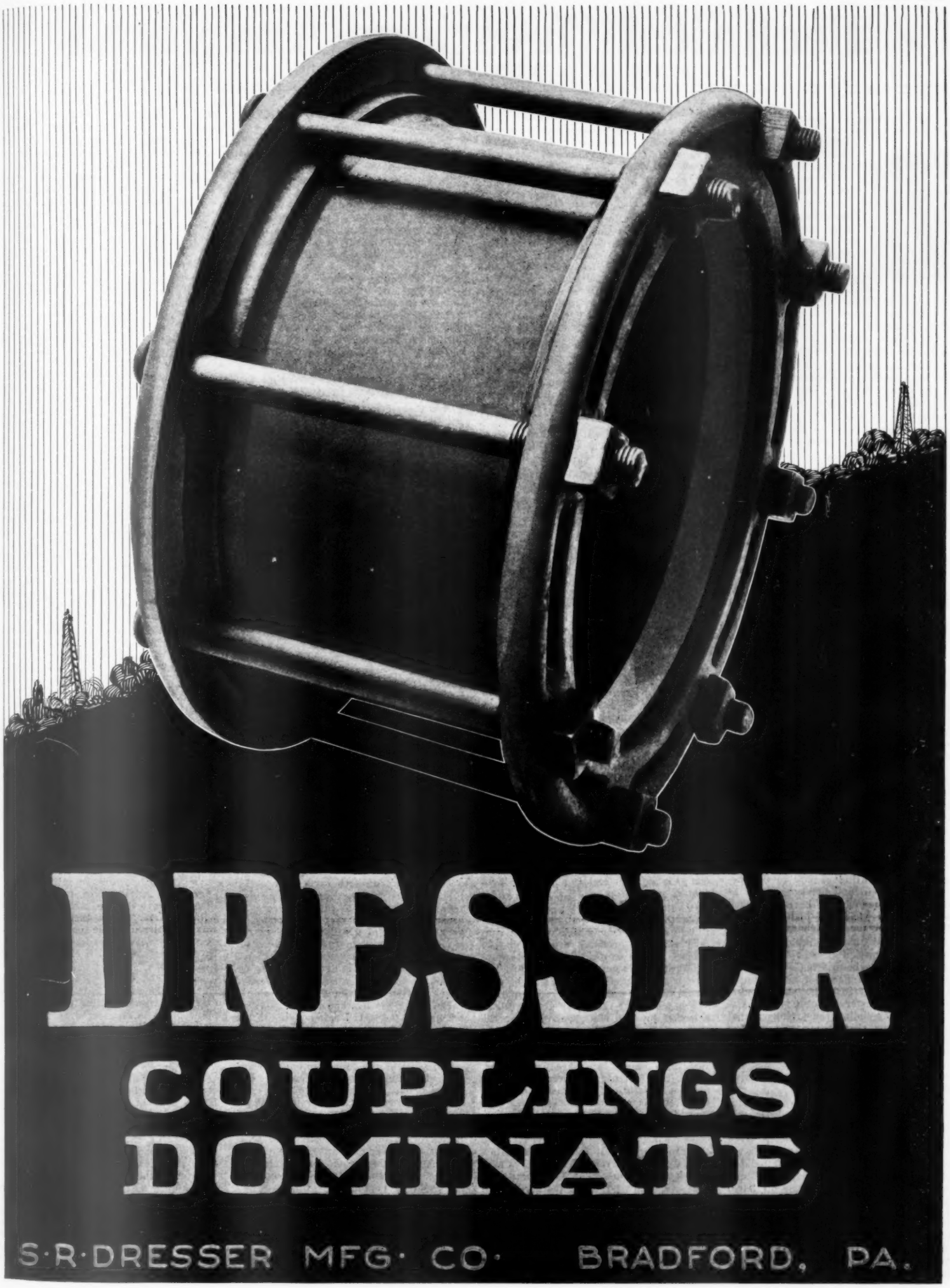
It may be said that this recovery is yet far from established. Granted, but the possibility is admitted and formally recognized by the Government's own patent on the process.

It may be said that it may work in the Bradford Field but not in others. Granted, but if the oil already recovered from the fields of Pennsylvania, West Virginia and New York—1,186,000,000 barrels—is, as calculated, but 15 per cent of the oil in the sands, the recovery of another 15 per cent by flooding, gas or air pressure, or soda ash, would give us another billion barrels, and still leave 5,000,000,000 barrels behind.

If the nearly 9,000,000,000 barrels of oil recovered in the United States by flowing and pumping wells represents only one-fifth of the oil in the known sands that means that there is three times as much oil in our existing fields as the whole world has used to date.

Most of this may be unrecoverable by any present known method but field tests with water, gas, air or soda ash and mining encourage the hope that a large proportion may be brought to the surface.

That possibility is one of the most interesting and important things before the industry today. Whether the Government, hampered by congressional indifference, continues the scientific study begun by the Geological Survey, the industry will not minimize its significance.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Technical Questions Answered

BY CHARLES K. FRANCIS, PH.D., TECHNICAL EDITOR

The Question and Answer Department of The Oil and Gas Journal is devoted to the manufacturing branches of the oil industry.

Those connected with the refining of crude petroleum, the manufacture of natural gasoline and closely allied industries are invited to submit their problems to Dr. C. K. Francis, technical editor. The department was created for the purpose of aiding managers, superintendents, engineers, chemists and all those engaged in the various phases of plant operation.

Those connected with the marketing departments and others interested in the utilization of petroleum products are also invited to take advantage of this service.

Questions should be submitted in as much detail as possible so as to assure a satisfactory answer.

OIL FROM COAL

Is oil obtained from coal to any extent and what are the methods used?—G. A. E.

The coke industry has for many years produced some oil as a by-product, but with the increasing demand for motor fuel many processes have been developed, and are receiving serious consideration, especially in England and Germany, which have for their primary object the production of a motor fuel.

Numerous methods which have been invented for the purpose of making a smokeless fuel, a semi-coke, by heating bituminous or semi-bituminous coal in ovens, retorts or stills without air. This is known as carbonization because the carbon content is increased. The process is one of destructive distillation so is comparable with the principles involved in the separation of the products from petroleum.

Carbonization of coal methods fall into two general classes: In one the conversion takes place at low pressures and comparatively low temperatures, while in the other very hig pressures are used. While yields depend upon the character of the coal used it is said that a German plant operating at 800 to 900 degrees Fahrenheit, and pressures from 1,000 to 2,000 pounds to the square inch have obtained yields as high as 30 to 40 per cent of the coal charged.

According to an announcement in the New York Times, a process for the extraction of enough oil from British coal to supply the oil needs of this country is being seriously investigated, according to the Westminster Gazette. Many circumstances, including the prolonged coal stoppage, says that paper, are causing scientific, industrial and financial interests to take up the question seriously, and vast commercial developments are likely to follow experiments now being made.

It is asserted that by a process invented by a Russian, Dr. Paul Dvorkovitz, Britain could supply all her own demands for petrol and still have large quantities available for export. It is estimated that by his system 500 tons of coal would produce 2,000 gallons of motor spirit, 6,500 gallons of lamp oil, 3,000 gallons of lubricating oil, 12,000 pounds of paraffin wax, 20,000 pounds of phenol, 45,000 pounds of pitch, 12,000 pounds of sulphate of ammonia, 12,000 pounds of sulphur, and then leave 374 tons of smokeless fuel which will give a greater heat than coal itself.

GAS FOR MOTOR FUEL

Have you any information about the gas which is reported to be in use in France for the operation of cars and buses?—D. M.

The only information we have about this is that gas made from wood or charcoal is being used. The French automobile firm, The Berliet, advertises a gas-operated vehicle and runs one through the streets of Paris. It is claimed that this car uses 10 francs worth of wood against the usual consumption of 100 francs worth of gasoline. A recent law permits a reduction in certain taxes when the car operates from the gas obtained from wood or charcoal.

ANTIKNOCKING PISTON

I am informed that a piston head has been invented which it is claimed will control the tendency to knock by mechanical means and would like to have a description of this if you have one.—B. J. K.

This was described, with an illustration, on page 102, The Oil and Gas Journal, July 22, 1926.

The staircase piston head is the invention of M. Dumanois, chief of the Technical Service of the French National Office for Liquid Fuels, who, according to the London Oil News, described the work in connection with the piston before the French Academy of Science. Slowing down the flame propagation so as to avoid detonation, he said, might be achieved by altering the shape of the combustion chamber, which results in changes in sequence of pressure variations.

He has operated a car equipped with his invention under conditions which previously had been possible only by making use of tetraethyl lead. The piston head is altered so as to form a series of steps, or staircase, and is placed in the cylinder so that the spark plug is opposite the top step, which is grooved for this purpose, the groove being continued in the lower steps. The rate of combustion is thus changed as is thought to do away with the knocking.

The compression ratio is raised from 4.6 to 6.7.

OIL SEEPAGE

I have found what appears to be an oil seepage which comes to the surface through a large spring of water and would like to know what kind of test can be made to be certain about it.—G. L.

This question is one which comes up very often but upon investigation seldom leads to a real oil well. Many spring waters contain iron which when in contact with air produces a scum on the surface of the water. Very small quantities of the scum or film produce an oily or rainbow effect which may be misleading if the water is in rapid motion. When waters of this class are placed in a bucket the film will soon collect on the surface of the still water and may be tested by drawing a stick through it. If the film is a mineral scum it will separate and crack into irregular pieces, while if it is truly oil there will be no distinct separation or at least the particles of oil will form pools which will soon drift together again.

Another way to test a seepage is to collect a small quantity in a clean glass the drop some of it into clear gasoline. Crude oil and related substances will darken gasoline. The formation of a grease spot on paper is another indication of oil.

A genuine seepage does not mean that there is necessarily a pool of oil behind it because some oil may be produced by organic matter, especially in the lowlands. Employ a reliable geologist for the investigation of a true oil seepage.

NEW YORK-LIVERPOOL ALKALI TEST

Will you give me an explanation of the meaning of the term N. Y.-Liverpool alkali test?—A. N. M.

This is a misleading value representing the actual concentration or purity of caustic soda that appears to have developed for export and import purposes through an error in the use of the atomic weight of sodium. The actual alkali in terms of Na_2O is apparently about 2.5 per cent too high. When examining caustic soda the determination is made on the basis of standard atomic weights and the result, when multiplied by the factor 1.03226 will give the percentage of Na_2O as New York-Liverpool alkali. Example: 75.56 actual sodium oxide × 1.03226 = N. Y. & L. 78.0 per cent.

PRINCIPLES OF TOWER SEPARATION

Are there scientific theories concerned in the operation of plate and bubble towers of which you could give me an outline?—J. A. C.

There are numerous theories involved in distillation and the separation of the different petroleum fractions, which are based on well established facts.

When a liquid mixture consists of two substances which have boiling points widely separated, one or both of the liquids may be recovered by heating the liquid sufficiently to change the lower boiling liquid into a vapor and then cooling the vapor to such an extent that it will condense to the liquid form. This is a simple statement of the process known as distillation. The recovery of a volatile liquid from a mixture with another liquid is not volatile, is a simple matter, but when numerous liquids or compounds are present which boil at nearly the same temperature absolute separation becomes difficult.

There are two kinds of distillation; simple or fractional distillation and destructive distillation. The ordinary crude still is used for simple distillation and the pressure still is used as a means for destructive distillation. In the first, the products are volatile enough to be separated by heat and condensation, while in the second, the material is decomposed or cracked through the influence of heat and pressure to the extent that substances which are volatile, under the existing conditions, are produced, and may then be obtained by the process of distilling.

It is obvious that the rate of vaporization, together with methods of condensation, have much to do with the degree of separation and purity of the product. A very slow rate of distillation will permit a closer temperature control and consequently give a better separation than when the opposite is true. This is because the material is held in the heated zone, when the temperature is slowly raised, near the average boiling point of let us say gas oil, long enough for the major part of it to pass into the vapor phase before the next fraction, say lubricating stock, begins to volatilize. The withdrawal of the first fraction prevents extensive dilution by the second fraction. When handling such large volumes as is done in the refining of petroleum, it becomes an economic impossibility to run the distillation at such a slow rate as is necessary to obtain the maximum separation, so other means are employed. Among these are various forms of towers, among which the plate and bubble towers are very popular.

The tower is a condensing medium which in practice operates so as to cause a separation during the process of cooling the vapors. The cooling effect may be a direct result of the removal of the vapors from the heated zone, or it may be brought about by additional means such as the feeding in of cold oil and heat exchangers. The farther the vapors are removed from the heated zone the greater will be the degree of condensation or cooling. A high tower will do more effective work in this respect than a low tower but the extent to which a tower may be elevated into the atmosphere becomes a question of expense and the solution of mechanical problems. It is the present opinion that petroleum distilling will develop into a one still which will be connected with either a very large and high tower, from which a number of streams will be taken, or to a series of towers.

A very high tower, or a series of towers, produces the same effect as when material is rerun or redistilled under different temperature conditions. There is some difference in that the operation is continuous. While gasoline and kerosene are not pure chemical compounds, for their composition changes with the crude and process, the same principles apply when attempting their separation by the process of distillation. It has been found in the alcohol, ammonia, benzol, toluol, etc., separation that conditions must be fixed if consistent results are to be expected, and it is from the industries which have had long experience in this kind of separation that we have obtained some of our modern apparatus in the refinery. The plate and bubble towers have come to us from these old industries. They operate on somewhat the same principle with the exception that in the bubble tower we have an absorbing and scrubbing action which is superior to that which could be expected from the plain plates.

In addition to these considerations there are fundamental laws of temperature, pressure, solution and volume which have to be included in a complete explanation of this subject but they will have to be discussed at some other time.

MELTING POINT OF WAX

Is there a standard method for determining the melting point of wax? If there is a standard method, will you kindly give me a description of it together with an explanation of any special chemistry involved?—H. K.

The standard method for determining the melting point of paraffin wax is A. S. T. M. Method D 87-22, which is designated Method 40.1 under Methods for Testing, in Technical Paper 323A, by the United States Bureau of Mines.

A small quantity of melted wax is placed in a test tube, which is provided with a stirrer and a thermometer. The wax is stirred while cooling and frequent observations made of the temperature. The temperature of the wax will fall gradually at first, become almost constant, and then again fall gradually. The average of the four readings, made every 30 seconds, during the almost constant stage is considered to be the uncorrected melting point. Corrections for errors in the thermometer or temperature corrections, if necessary, will give the A. S. T. M. Melting Point.

It will be observed that there is no chemical reaction other than that of the latent heat of fusion. When any substance passes from the liquid to the solid state its temperature remains constant or nearly so during the operation of solidification because of a quantity of heat which is held in it. This heat is released to the surrounding material, and it is known as the latent heat of fusion. In this particular case the latent heat is sufficient to overcome the lowering influence of the bath temperature and thus provides a basis for the determination of the melting point. The procedure might be reversed but conditions would not be so conveniently controlled.

Spindletop Peak At 75,000 Barrels

Coastal Dome Rivals Texas Panhandle Production for Week. Water Intrusion Increasing in Deep Sand Wells

The Texas Panhandle and Spindletop made striking gains in production during the week, the Amarillo Field reaching 80,748 bbls. and the Coastal dome touching the 75,000-bbl. mark, which, however, is expected to be its peak, as water intrusion is increasing there.

In Carson County, Texas, the Marland company completed in the greatest granite wash area, excepting possibly the Wilcox-Pampa district, its No. 3 Burnett A, making 2,865 bbls. at last report, the biggest in that county.

Much doubt exists regarding the Winkler County well in west Texas, reports being flatly contradictory. Montague County established a record in output.

A Gulf Co. wildcat in Grant Parish, Louisiana, near Georgetown, is estimated at 50 bbls. Urania had a 500-bbl. well near Tullos.

In Colorado the Union Oil Co. completed a producer at Fort Collins estimated at 400 bbls. The Texas Company's well at Tow Creek has increased to 400 bbls.

The Shell Co. completed its No. 22 Gosnell at Ventura Avenue for 5,640 bbls. The Marland Co. may have found a sand at Seal Beach. There is considerable increase in activity at Huntington Beach.

In New Mexico the Skelly company had a show of oil and gas at 2,370-80 feet in a test in Section 22-17-31, Eddy County, 5 miles west of the Maljamar well.

The Seminole Field is the most interesting in Oklahoma just now. The Independent Oil & Gas Co.-Garland's No. 1 Fixico is making 5,540 bbls. of high gravity oil. In Kansas the Wiggins Pool in Greenwood County was extended by the Manhattan Oil Co. and Winters & Harwood's No. 3 Lindamood, which flowed 190 bbls. while being connected to the tanks.

OKLAHOMA

In the Deep Rock Pool in Payne County, the Deep Rock Oil Co.'s No. 3 Shannon, SE cor. SW, Section 23-18-3, which was completed ten days ago for 32,000,000 feet of gas in the Wilcox sand, has blown into oil and is making 375 bbls. daily.

Amerada Petroleum Corp.'s No. 2 Grayson, SW cor. SE SE, Section 32-8-8, had the Wilcox sand 4,152-58 feet with 1,200 feet of oil and water in the hole.

Magnolia Petroleum Co.'s No. 1 Parker, SW cor. SE SW, Section 32-8-8, found a hole full of water at 4,130 feet.

CALIFORNIA

LOS ANGELES, Calif., Aug. 2.—Superior Oil Co. has just finished its first well in the southwest extension of Huntington Beach, doing 250 bbls. from 3,063 feet. It is expected 50 wells will start work within the next 60 days. Shell Oil Co.'s No. 22 Gosnell, at Ventura Avenue, was completed for 5,640 bbls. and 3,000,000 feet of gas from 6,125 feet.

GULF COAST

HOUSTON, Tex., Aug. 3. — Another well was added to the list in the deep sand area at Spindletop when the Yount-Lee Oil Co. brought in No. 1 fee at 3,050 feet, flowing 8,000 bbls. initial output. It brings the new production for the week of July 31 to 53,780 bbls. The daily average for the district is now above 63,000 bbls. The Humphrey Corp.'s No. 2 Ousley, in Cherokee County, drilled to 4,004 feet, was pulled back to 3,385 feet and shot, but bailed dry. The Gulf company's No. 2 Smith, at High Island, worked over, is pumping 75 bbls. Yount-Lee Oil Co.'s No. 2 fee, Spindletop, is flowing 2,500 bbls. Gulf Production Co.'s No. 2 Weed is flowing 4,000 bbls. Gulf Production Co.'s No. 2 Roach, at Spindletop, is flowing 6,000 bbls. at 2,900 feet. The total production there is now 75,000 bbls. This should be the peak, as the water percentage is increasing. Pure Oil Co.'s No. 1 Odell, in Mexia extension, set casing at 2,860 feet to test late this week. It may make a small well.

SOUTHWEST TEXAS

SAN ANTONIO, Tex., Aug. 3. — A total of eight wells were completed in the Mirando district of Southwest Texas last week, four in the Randado Field in Jim Hogg County with a total flush production of about 1,000 bbls. and four in the Bruni extension territory of the Mirando Field with a total flush production of approximately 1,280 bbls.

In the Randado Field Moody Oil Corp. completed No. 9 Palacious in Block 20 of Survey 291, swabbing 300 bbls., Grayburg Oil Co. completed No. 2 Weil in Block 15 of Section 81 good for about 200 bbls., Simms Oil Co. completed No. 3 Weil for 200 bbls. and C. O. Maddox and the E. L. Smith Oil Co. completed No. 2 Palacious in the northern part of Survey 291 good for 200 bbls.

In the Bruni tract extension and the Edgington tracts out of the Puig ranch next north of the Bruni tracts, Columbia Petroleum Co.'s No. 11 Puig, in the northeast corner of Block 76 of the Puig tracts, came in making 50 bbls. of oil and 50 bbls. of salt water. It seems to mark about the edge in that part of the field. Columbia's No. 9, on the south line of Block 77, came in swabbing at the rate of 1,000 bbls. daily. Rydal Crown Central completed No. 15 Bruni, in Block 17, swabbing 200 bbls., and National Refining Co. completed No. 3 Bruni in the east half of Block 43, estimated at 30 bbls.

Kirkpatrick-Lucas, at 1,804 feet in No. 1 Anderson, one-half mile east of the line of production at the south end of the Los Ojuelos ranch in the older part of the Mirando Field, which last week had a core that indicated a possible well, tested salt water, but has not been abandoned.

Another well which a week ago looked favorable is the Barkley-Meadows and Morgan No. 1 King-Harper, north of the Cole Field in Duval County, in Survey 323. Last week it cored a sand that showed plenty of oil. It cored the sand from 1,745-58 feet. Total depth after drilling in is 1,760 feet, and it tested salt water. It is plugging back for another test.

NIGGER CREEK FIELD

MEXIA, Tex., Aug. 2.—At the close of last week the Nigger Creek situation was in a state of suspense and nobody could tell with any certainty just what the field will amount to. One well, the Transcontinental Oil Co.'s No. 1 Rosson, was producing about 1,450 bbls. Friday and 1,250 bbls. Saturday, flowing by heads, and the second well, No. 1 Cockrum, was being rigged up to clean out with a reasonable certainty that it would be brought back to production within a few days. Sunday, while bailing, it flowed about 150 bbls. Its erratic behavior and failure to keep flowing was due to the looseness of the sand which caused it to sand up. On the strength of these two wells, however, 57 rigs had been erected up to last Saturday, and of this number 37 were actually drilling at various depths from 100 feet to the top of the Woodbine sand.

Several tests which will contribute more or less conclusive evidence as to the potentiality of this field were close to the critical levels, but had not quite reached the necessary depth. Property owners in Nigger Creek, by the way, feel that the name given the field carries a wrong impression. Most of the farm owners, like W. B. Cockrum and Mr. Rosson, are white men.

The Pure Oil Co.'s No. 1 O'Dell was coring sand at 2,828 feet, but two attempts to obtain a core met with no success and the core barrel was to have been run again. This well, with a surface elevation of 499.2 feet, had the top of the chalk at 2,358 feet and the bottom at 2,410 feet, as nearly as anybody can determine. Samples from 2,400-40 feet are missing so the bottom of the chalk is undetermined with any accuracy.

The Godley Oil Co., Cranfill and Reynolds' No. 1 Rosson, in Block 14 of the Rosson farm, was getting down close to the sand, drilling at 2,740 feet. It has a surface elevation of 498 feet and topped the chalk at 2,240 feet, while the bottom was 2,404 feet. Transcontinental Oil Co.'s No. 1 Cogdell was also drilling at 2,600 feet in chalk topped at 2,486 feet. It has a surface elevation of 514.6 feet. Moss & Keeling's No. 1 Rosson, in Block 4, with an elevation of 517.7 feet, topped the chalk at 2,517 feet and was still drilling in it at 2,630 feet. Transcontinental Oil Co.'s No. 1 O'Dell, elevation 496.9 feet, was drilling at 2,130 feet in chalk topped at 2,130 feet and No. 2 Rosson, elevation 510.7 feet, was drilling at 2,620 feet. It topped the broken chalk at 2,496 feet and the solid chalk at 2,538 feet. Their No. 3 Rosson, elevation 496.1 feet, topped the chalk at 2,314 feet. The Pure Oil Co.'s No. 4 O'Dell, elevation 482.6 feet, had some chalk at 2,015 feet and was drilling at 2,109 feet; No. 2 O'Dell, elevation 505.3 feet, was drilling at 2,462 feet in shale. The J. K. Hughes Development Co.'s No. 1 Suttle-Phillips, elevation 509.9 feet, topped the chalk at 2,453 feet and was drilling at 2,477 feet.

MICHIGAN

SAGINAW, Mich., Aug. 3.—Ohio Fuel Corp.'s No. 1 Fisher farm, northwest quarter of Section 11, Saginaw Township, Saginaw County, a half mile northwest of production, struck the Berea sand at 1,830 feet and oil at 8 feet in sand. It will make an average producer and is the farthest test north.

Sun Oil Co.'s No. 1 John Schonteit, one location south of Weiss farm producer, is showing for 30 bbls.; sand at 1,825 feet and 9 feet in sand.

Saginaw Prospecting Co.'s Hanson farm well, Section 14, had sand at 1,817 feet, and at 10 feet in sand is showing for 20 bbls.

Gordon Petroleum Co.'s wildcat on Schwannecke farm, Section 33, Buena Vista Township, got no oil in Berea sand and is drilling deeper for testing out the Saginaw sand.

ANOTHER VENTURA PLANT

FILLMORE, Cal., Aug. 2.—The Southern Counties Gas Co. is erecting another gasoline absorption plant at the outskirts of Fillmore in the Ventura Field. The plant is one of several being built by various gas distributing companies on their lines to operate on the residue gas from other plants in the Ventura Field. The gas, although supposedly dry when coming from the Ventura gasoline plants, is claimed to have sufficient gasoline remaining to operate "squeezer" plants profitably.

BIG GAIN IN INITIAL PRODUCTION OF WELLS COMPLETED DURING JULY

More wells were completed in the fields east of California during July than in June of this year, and the initial production of these wells showed a gain of 115,343 bbls. over the wells completed in June. The effect of the intensive drilling activity is shown in the monthly report which shows 439 more wells were completed, including 218 more gas wells and 22 more dry holes. There was more new work under way in July than in June, also, for while there was a less number of rigs, there were 120 more wells drilling.

SUMMARY OF ALL FIELDS

Summary of Wells Completed

Field—	Comp.	Prod.	Dry	Gas
Eastern	396	2.742	60	63
Central Ohio	70	556	17	37
Lima	52	861	4	2
Indiana	29	817	3	2
Illinois	33	1,124	6	3
Kentucky	127	804	26	3
Tennessee	2	100	1	0
Kansas	303	18.892	109	10
Oklahoma	598	92.914	207	49
North and West Texas.	651	45.957	276	7
Texas Panhandle	61	35.595	1	4
East Texas	6	6.850	3	0
Gulf Coast	114	77.125	41	0
Southwest Texas	77	11.110	21	3
Arkansas	93	4.017	22	3
Louisiana	105	5.602	31	13
Wyoming	56	4.063	8	3
Montana	58	9.507	19	6
Colorado	12	3.749	4	1
New Mexico	13	1.390	5	0
Total July	2,856	323.875	864	208
Total June	2,417	208,532	646	186
Difference	439	115.343	218	22

Summary of New Work

Field—	Rigs	Drg.	Ttl.
Eastern	153	496	649
Central Ohio	47	103	150
Lima	2	55	57
Indiana	3	45	48
Illinois	4	52	56
Kentucky	12	185	197
Tennessee	0	13	13
Mississippi	5	9	14
Alabama	0	4	4
Florida	0	1	1
Kansas	91	347	438
Oklahoma	235	1,207	1,442
North and West Texas	122	765	887
Texas Panhandle	105	440	545
East Texas	18	60	78
Gulf Coast	55	189	244
Southwest Texas	40	119	159
Arkansas	39	118	157
Louisiana	51	120	171
Wyoming	41	358	399
Montana	12	128	140
Colorado	16	97	113
Utah	2	31	33
New Mexico	8	151	159
Total July	1,061	5,093	6,154
Total June	1,147	4,973	6,120
Difference	86	120	34

OKLAHOMA

Summary of Wells Completed

County—	Comp.	Prod.	Dry	Gas
Osage	81	8,228	25	3
Tulsa	23	4,737	13	2
Okmulgee	65	1,981	33	7
Seminole	30	12,957	1	3
Okfuskee	18	738	8	4
Hughes	16	11,225	4	1
Muskogee and Wagoner	27	230	17	5
Creek	84	12,264	19	5
Pawnee	23	492	11	1
Kay	30	17,378	5	4
Payne	22	1,330	15	1
Lincoln	18	1,241	4	0
Garfield	36	16,828	6	0
Stephens and Cotton	12	65	9	2
Jefferson	5	325	1	0
Carter	24	3,058	3	2
Grady	11	35	2	6
Nowata	17	150	6	2
Washington	19	81	8	0
Rogers	16	89	6	1
Miscellaneous	21	482	11	0
Total July	598	92,914	207	49
Total June	490	67,845	142	40
Difference	108	25,069	65	9

(Continued on Page 128)

Panhandle Produces 80,748 Barrels

Marland Brings in Biggest Well in Carson County, Making 2,865 Bbls. at Last Reports. Hutchinson Leads Gain

By C. D. Lockwood
Staff Correspondent, Texas Panhandle

"Record smashing week" was observed throughout the Panhandle of Texas during the past 7-day period, and with its passing several new high marks were established. Hutchinson County and the entire Panhandle passed upward to new peaks of production, the former reaching 74,168 bbls. daily and the latter 80,748 bbls. In climbing to those high levels they also established records for gains in one week. Hutchinson County having climbed 8,948 bbls. at one jump and the whole Panhandle 10,343 bbls. All counties participated in the bullish tendency, moreover, Carson County's 30 wells producing 2,750 bbls., a gain of 365 bbls., and Gray County registering a nice increase of 900 bbls., to 3,490 bbls., from eight producing wells. Even Wheeler County operators were determined to join the parade and by means of cleaning out a number of old producers boosted the output of that county 120 bbls. to 310 bbls.

Only 17 new wells were added to the producing list in the Panhandle during the past week so the daily average production per well naturally rose to new record heights. For the whole Panhandle, the average per well was 328 bbls., a gain of more than 20 bbls., while in Hutchinson County the average per well was 386 bbls. Gray County leads the list in this respect with a per well average of 471 bbls. but that is accounted for by the fact that two wells are making most of the oil and only six others are on the list in this county.

Carson's County's Biggest

One of the most surprising records for the Panhandle this week, however, came from Carson County where the Marland Oil Co. brought in the greatest granite wash area in the Panhandle, save possibly the Wilcox-Pampa Oil Co.'s No. 3 Worley & Reynolds in Gray County, and the Marland well hasn't been producing long enough to tell whether it is as good as Gray County's pride or not. The new producer is Marland Oil Co.'s No. 3 Burnett-A in Section 116, Block 5, finding the granite wash at 2,929-3,143 feet, total depth 3,145 feet. It started producing some oil more than a week ago, swabbing 825 bbls. a week ago Tuesday. Its second day's output flowing and swabbing was 1,007 bbls. and the third day's 1,487 bbls. It then made 2,323 bbls. on the fourth day, 3,100 bbls. the following day and 3,594 bbls. according to Sunday's gauge, and dropped back to 2,865 bbls. Monday. This is by far the best well ever completed in Carson County, and has the earmarks of one of the best in the Panhandle. Marland Oil Co.'s production in the Panhandle for Sunday and Monday totaled about 7,190 bbls. each day.

The reasons for the rise in Hutchinson County production during the past week can be outlined briefly as follows: The Empire Gas & Fuel Co.'s 900-bbl. well on the Weatherly tract, Phillips Petroleum Co. and Coble Oil Co.'s Nos. 8 and 9, good for 450 and 600 bbls. respectively; the Westex Oil Co.'s No. 5 Whittenburg, a 500 bbl. producer; Smith & Bynum's 1,250-bbl. well in No. 2 Whittenburg, and the Spring Creek Oil Co.'s No. 2 Smith, a 750-bbl. completion. Sixteen completions in Hutchinson County added 9,658 bbls., not all of which counted in the week's daily average production, although this is balanced by completions of last week which made their influence felt this week. However, the fact that the output rose 8,948 bbls. while only 9,658 bbls. were being added indicates that the older wells must be holding up remarkably well. In many fields of such a size that much new production would be needed to offset the natural decline. However, everything possible is being done to hold up production, such as continued agitation and swabbing, and it is not unreasonable to expect the 100,000-bbl. mark to be reached in the next three weeks.

The Gulf Production Co. scored this week south of the Canadian River when its No. 3 A Whittenburg, in Tract 29, Caperton & Williams subdivision of the Mary Whitley Survey, flowed 1,032 bbls. after being deepened to 2,935 feet in pay topped at 2,915 feet. The same company's No. 2 E. B. Johnson, Section 66, Block 46, was cleaned out to the bottom at 2,905 feet and swabbed 330 bbls. Monday it was making 14 bbls an hour. No 1 E. B. Johnson was shot with 60 quarts at 2,920-60 feet and partly cleaned itself. It flowed 212 bbls. in 13 hours. Gulf's No. 13 Dial, Section 1, Block I, was cleaning out 10 feet off bottom and swabbed 252 bbls. in the first 24 hours after a shot.

The Inspiration Oil Co.'s No. 1 Erle Thompson, Section 4, Block M-18, a wildcat, had a very small show, approximately 1 bailer a day, in pay at 3,025-3,100 feet. This depth is just 38 feet above sea level. Murchison & Fain's No. 1 Twichel on the strip between the Gulf Production Co.'s Dial leases north of the river, flowed 70 bbls. Friday night from lime at 2,850-2,917 feet.

Panhandle Completions

Amerada Petroleum Corp.'s No. 3 J. A. Whittenburg, Section 89, Block Z, shot with 360 quarts at 2,975-3,051 feet, spraying 30 bbls. Dixon Creek Oil Co.'s No. 34 Smith, Section 5, Block Y, shot with 260 quarts at 2,722-94 feet, 350 bbls. Empire Gas & Fuel Co.'s No. 1 Weatherly, Section 19, Block Y, shot with 230 quarts at 2,987-3,054 feet, 900 bbls. Gulf Production Co.'s No. 3-A Whittenburg, Tract 29, Caretron & Williams subdivision, Mary Whitley Survey, 1,032 bbls. natural at 2,915-35 feet. J. K. Hughes Development Co.'s No. 9 Kingsland, Section 6, Block Y, shot with 160 quarts at 2,763-2,805 feet, 100 bbls.; No. 11 Kingsland, same section, shot with 300 quarts at 2,860-2,914 feet, 550 bbls.

Midwest Exploration Co.'s No. 4 Smith, Section 5, Block Y, shot with 160 quarts at 2,746-96 feet, 450 bbls. Phillips Petroleum Co.'s No. 1 Jeanette Kingsland, shot with 200 quarts at 2,789-2,860 feet and again with 80 quarts at 2,832-60 feet, made 286 bbls. Phillips Petroleum Co. and Coble Oil Co.'s No. 8 J. A. Whittenburg, Section 12, Block Y, shot with 80 quarts at 2,925-57 feet, total depth 2,965 feet, 450 bbls.; No. 9 J. A. Whittenburg, shot with 80 quarts at 2,904-36 feet, total depth 2,945 feet, 600 bbls. Roxana Petroleum Corp.'s No. 5 Smith, Section 14, Block Y, shot with 90 quarts at 2,875-2,909 feet, total depth 2,910 feet, 30 bbls. Skelly Oil Co.'s No. 5 J. A. Whittenburg, Mary Whitley Survey, shot with 80 quarts at 2,965-81 feet, made 180 bbls. Smith & Bynum's No. 2 J. A. Whittenburg, Section 12, Block Y, shot with 300 quarts at 2,785-2,850 feet, 1,250 bbls. Spring Creek Oil Co.'s No. 2 Smith, Section 5, Block Y, shot with 320 quarts at 2,680-2,753 feet, made 750 bbls. Triangle Oil Co.'s No. 2 Smith, Section 5, Block Y, flowed 109 bbls. an hour natural at 2,624-63 feet. The Westex Oil Co.'s No. 5 J. A. Whittenburg, Section 13, Block Y, flowed 500 bbls. at 2,923-67 feet, natural.

It is interesting to note that only three of the above completions flowed naturally. Beside the above wells, marked completed, 26 other tests in Hutchinson County were making oil in some amount or were cleaning out after shots or had oil in the hole. It is therefore evident that the completions will continue during the next few weeks at about the same rate.

DAILY AVERAGE PRODUCTION OF AMARILLO DISTRICT

Hutchinson County

Company—	Wells	Daily Av.
Amerada Pet. Corp.—J. A. Whittenburg	1	60
Amerada Pet. Corp.-J. A. Whittenburg B	1	50
Amerada Pet. Corp.—G. A. Whittenburg	1	45
American Refining Co.	1	115
Apex Oil Co.	1	15
Badger Oil Co.	1	65
R. C. Barnum	1	120
Canadian River Oil Co.	4	410
Canyon Oil & Gas Co.	2	4,250
Centerfield Oil Co.	1	0
Coble-Whittenburg	3	1,350
Cockrell-McIlroy Oil Co.	2	1 075
Currie Bros. & Phillips	1	2,250
Derby Oil Co.	2	1,305
Devonion Oil Co.	1	50
Dixon Creek Oil Co.	18	12,500
Double 5 Oil Co.	1	75
Douglas Oil Co. & Cline	1	0
Dunnigan et al	1	340
Echo Oil Co.	1	290
Empire Gas & Fuel Co.—Whittenburg	1	7
Empire Gas & Fuel Co.—Sec. 68.	1	300
Empire Gas & Fuel Co.—Weatherly	1	450
Fly-Blackburn Oil Co.	1	225
Gates Oil Corp.	4	275
Golding & Phillips	1	0
Gulf Prod. Co. & Panhandle Ref.	11	3,110
Gulf Production Co.	4	1,170
Gulf Production Co., fee	1	110
Heywood, et al—Cockrell	1	0
Heywood et al—Christian	1	15
J. K. Hughes Dev. Co.	8	1,075
Holmes, Currie & McKnight	1	240
W. H. Holmes	1	250
J. H. Lennix	1	25
Lennix & Patterson	1	1,200
Lucky 10 Oil Co	1	4,000
Marland Oil Co.—Weatherly	1	0
Marland Oil Co.—Wisdom	1	20
Midwest Exploration Co. et al.	3	405
McMan Oil & Gas Co.	5	4,250
McIlroy & Herring	3	175
S. D. & W. W. McIlroy	3	1,250
McIlroy Bros. et al	3	440
J. H. Middleton	3	30
Newby Oil Co.	1	30
New Domain Oil Co.—Borton	1	25
New Domain Oil Co.—Kingsland	1	15
Phillips & Heywood	1	290
J. R. Phillips—Weatherly	1	30
Phillips et.—Barnum	1	110
Phillips Pet.-Coble.	8	6,500
Phillips Pet.—Finklea	1	565
Phillips Pet.—Gibson-62	2	240
Phillips Pet.—Gibson-63	1	375
Phillips Pet.—McMillan	1	405
Phillips Pet.—Kingsland	1	140
Phillips Pet.—Jeanette Kingsland	1	85
Phillips Pet.—Jerry	2	5,100
Phillips Pet. et al	1	530
Phillips Pet.—Huff	3	900
Phillips Pet.—Pulaski	2	225
Phillips Pet.—H. E. Smith et al	4	500
Phillips Pet.—H. E. Smith et al (Sec. 12)	1	125
Phillips Pet.—J. A. Whittenburg	2	525
Prairie—Weatherly	2	100
Prairie—Johnson Bros.	1	0
Pelfel Oil Co.	2	610
Riley & Holmes	1	600
Roxana Pet. Corp.-A (Sec. 14)..	3	1,440
Roxana Pet. Corp.-B (Sec. 11)..	3	1,000
Ryan Pet. Corp.	2	140
Skelly Oil Co.—Whittenburg	3	100
Skelly Oil Co.—Powell	1	20
Skelly—Cunningham	2	540
Skiatex Oil Co.	3	950
J. L. Smith	1	75
Smith & Bynum	2	520
Spring Creek Oil Co.	2	775
Summit Oil Co.	2	490
Sunny Jim Oil Co.	3	700
Travelers Oil Co.	2	620
Triangle Oil Co.	1	1,200
J. D. Ward	1	160
J. D. Ward et al	1	0
Westex Oil Co.	3	2,750
White Eagle O. & R.—Johnson	1	450
White Eagle O. & R.—Smith	4	450
White Eagle O. & R.—Whittenburg	1	95
J. O. Whittington	1	60
Total Hutchinson County	192	74,168
Average per well		386

Carson County

Amarillo Oil Co.	1	0
American Refining Co.	4	390
Gates Oil Corp.	1	10
Gulf Production Co.	9	250
Marland Oil Co.	8	1,760
W. W. Silk et al	2	65
Skelly Oil Co.	2	85
Sunny Jim Oil Co.	2	35
The Texas Co.—M. C. Burnett	3	75
The Texas Co.—S. B. Burnett	6	90
Total Carson County	38	2,750
Average per well		72

Gray County

Shamrock Petroleum Co.	2	1,050
Wilcox-Pampa Oil Co., Worley & Reynolds	3	2,325
Wilcox-Pampa Oil Co., Combs & Worley	1	70
The Texas Co.	1	25
Empire Gas & Fuel Co.	1	20
Total Gray County	8	3,490
Average per well		471

Potter County

Amarillo Oil Co.	1	30

Wheeler County

Gibson Oil Corp.	2	220
Continental Oil Co.	1	70
Midwest Exploration Co.	3	20
Uphan Gas Co.	1	0
Total Wheeler County	7	310
Average per well		44
Grand total Panhandle	246	80 748
Average per well		328

NORTH TEXAS

Production by Fields for Week Ending July 26, 1926

Panhandle

Carson County	2,365
Hutchison County	65,558
Wheeler County	190
Gray County	2,590
Potter County	25
Total	70,728

Electra

Atlantic Oil Producing Co.	57
Empire Gas & Fuel Co.	675
Gulf Production Co.	1,008
Humble Oil & Ref. Co.	125
Magnolia Petroleum Co.	3,405
Panhandle Refining Co.	50
Phillips Petroleum Co.	15
Prairie Oil & Gas Co.	110
Rio Bravo Oil Co.	569
The Texas Company	3,423
Texhoma Oil Refining Co.	1,239
Miscellaneous	5,427
Total	16,103

Burkburnett

Gulf Production Co.	436
Humble Oil & Ref. Co.	362
Magnolia Petroleum Co.	2,607
Panhandle Refining Co.	201
Prairie Oil & Gas Co.	26
Sinclair Oil & Gas Co.	52
Skelly Oil Co.	175
The Sun Oil Co.	55
The Texas Company	416
Texhoma Oil & Ref. Co.	523
Miscellaneous	7,360
Total	12,213

Iowa Park

Atlantic Oil Producing Co.	57
Gulf Production Co.	111
Humble Oil & Ref. Co.	131
Magnolia Petroleum Co.	325
Panhandle Refining Co.	40
Roxana Petroleum Corp.	8
Simms Oil Co.	15
The Texas Company	218
Texhoma Oil & Ref. Co.	571
Miscellaneous	2,800
Total	4,276

Wilbarger

Atlantic Oil Producing Co.	54
Empire Gas & Fuel Co.	875
Gulf Production Co.	55
Humble Oil & Ref. Co.	3,050
Phillips Petroleum Co.	6,519
Prairie Oil & Gas Co.	175
Roxana Petroleum Corp.	456
The Texas Company	16
Texhoma Oil & Ref. Co.	99
Tidal Oil Co.	15
Miscellaneous	4,245
Total	15,559

Archer

Atlantic Oil Production Co.	218
Barnsdall Oil Co.	875
Cosden Co.	472
Empire Gas & Fuel Co.	500
Gulf Production Co.	2,646
Humble Oil & Refining Co.	1,358
Independent Oil & Gas Co.	15
Magnolia Petroleum Co.	1,562
Marland Oil Co.	621
Panhandle Refining Co.	126
Phillips Petroleum Co.	601
Prairie Oil & Gas Co.	1,996
Roxana Petroleum Corp.	398
Simms Oil Co.	600
Sun Oil Co.	255
The Texas Company	2,947
Texhoma Oil & Ref. Co.	2,918
Tidal Oil Co.	30
Miscellaneous	12,235
Total	30,271

Young

Atlantic Oil Producing Co.	422
J. S. Cosden	255
Gulf Production Co.	216
Humble Oil & Refining Co.	300
Magnolia Petroleum Co.	120
Marland Oil Co.	2
Mid-Kansas Oil & Gas Co.	10
Panhandle Refining Co.	120
Phillips Petroleum Co.	25
Prairie Oil & Gas Co.	10
Roxana Petroleum Corp.	125
Simms Oil Co.	590
Sinclair Oil & Gas Co.	344
Sun Oil Co.	250
The Texas Company	413
Texhoma Oil & Ref. Co.	292
Tidal Oil Co.	210
Miscellaneous	4,223
Total	7,927

Stephens

Arkansas Fuel Oil Co.	25
Empire Gas & Fuel Co.	25
Gulf Production Co.	1,179
Humble Oil & Ref. Co.	650
Magnolia Petroleum Co.	375
Mid-Kansas Oil & Gas Co.	1,505
Phillips Petroleum Co.	350

(Continued on Page 128)

Crude petroleum can be converted entirely into gasoline and coke in one operation

But only the Dubbs Cracking Process can do it

Universal Oil Products Company
Owners of the Dubbs Process
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Winkler County Well Reports Vary

Montague County Sets New Record. Young County Area Is Extended. Upton Well Has 1,000 Feet of Oil in Hole

By C. D. Lockwood
Staff Correspondent, North Central Texas

FORT WORTH, Tex., Aug. 2.—The Winkler County wildcat of Westbrook and others continues to hold much of the attention of operators in north and west Texas and it didn't have much competition during the past week. Montague County made another production record, the Texhoma-Kemp Pool in Young County was extended 1,500 feet to the northwest, the Humble Oil & Refining Co.'s No. 1 Ricker & Dodson, south of the Dixie Oil Co.'s No. 2 Hughes in Upton County had 1,000 feet of oil in the hole at 2,049-61 feet and a 600-bbl. well was completed in Brown County.

The Winkler County well is still a source of varying reports and many rumors. The casing was lowered 4 feet but reports vary as to whether the water was shut off or not, some scouts believing that it was, while others differed. The true status could not be determined as equally authentic sources stated it had no oil or gas in the hole after lowering the pipe and that the oil and gas seemed to be exhausted while another claimed there was 1,200 feet of oil in the hole.

The Young County extension is Madden and others' No. 1 Benson which had oil sand at 900-22 feet and swabbed at the rate of 65 bbls. daily.

ESTIMATED PRODUCTION
Week Ending July 31, 1926

	This Week	Last Week
Ranger District—		
Brown County	9,345	9,500
Callahan County	4,075	4,165
Coleman County	1,527	1,625
Comanche County	1,850	1,865
Palo Pinto County	445	435
Ranger	5,683	5,793
Shackelford County	11,035	11,292
Stephens County	11,830	11,805
Total Ranger District	45,790	46,480
Wichita Falls District—		
Electra	16,045	16,112
Burkburnett	12,346	12,216
Iowa Park	4,329	4,289
Archer County	30,363	30,346
Clay County	534	533
Wilbarger County	15,143	15,566
Montague County	5,303	5,028
Young County	7,966	7,896
Jack County	199	175
Throckmorton County	460	468
Baylor County	140	132
Cooke County	87	165
Total Wichita Falls Dis.	92,915	92,926
West Texas District—		
Big Lake Field	28,940	29,660
Crane County	660	620
Crockett County	1,020	1,108
Howard County	90	41
Mitchell County	3,690	3,348
Scurry County	54	48
Upton County	4,027	3,625
Total West Texas District	38,481	38,450
Grand total	177,186	177,856
Decrease this week	670	.....

Changes in the production estimates for the week ended last Saturday were almost imperceptible as the above figures show. Mitchell County increased 338 bbls. due to the completion of three new wells by the California Co. on its Petitfils, Foster and Adams leases, and Upton County gained 402 bbls. as a result of the Marland Oil Co.'s work on its Sanger and Burleson leases and the continued good output of the Dixie Oil Co.'s No. 2 Hughes which averaged 1,900 bbls. daily for the week. But these contributions little more than equalled the drop of 720 bbls. in the Big Lake Field of Reagan County which was caused by natural decline of the wells and the fact that no new ones were brought in. This field now has 115 producing wells, the best ones being the Big Lake Oil Co.'s No. 51 which averaged 1,681 bbls., flowing, during the past week, and No. 58 which averaged 1,327 bbls., also flowing. The same company's No. 15 pumped an average of 618 bbls., 15 per cent water; No. 48 averaged 990 bbls., flowing; No. 49. 883 bbls. and No. 60 flowed 628 bbls. daily for the week.

In Upton County, Marland Oil Co.'s seven wells on the Burleson tract averaged 1,060 bbls. daily and its seven Sanger wells averaged 677 bbls. The 30 producers in Upton County averaged 4,027 bbls.

Crane County's average of 660 bbls. was due to the Gulf Production Co.'s No. 1 McElroy which held up above 500 bbls. daily throughout the week.

There were few production changes in the other north Texas counties worthy of note. Montague County contributed its regular weekly record, its output having been boosted nearly 300 bbls., to 5,303 bbls. The Texhoma Oil & Refining Co. is leading the other concerns in this county with a daily average of 1,438 bbls. while The Texas Company is second with 1,376 bbls.

Cooke County's decline from 165 bbls. to 87 bbls. is an adjustment rather than a decrease in production. From July 14 to 28 the one producer in Cooke County, C. C. Lanier and others' No. 2 Hyman produced 2,390 bbls. according to pipeline runs.

In Wilbarger County, the Phillips Petroleum Co. still leads the field with a daily average output of 6,430 bbls. while the Humble Oil & Refining Co.'s production is 3,017 bbls.

Completions—Archer County

Texhoma Oil & Refining Co.'s No. 14 Hamilton pumped 103 bbls. at 1,793½-1,802 feet. Allday Oil Co.'s No. 1 Pace was dry and abandoned at 1,291 feet. Caldwell and Consolidated Oil Co.'s No. 5 Hutcheson made 80 bbls. from sand at 1,365-73 feet. American Refining Co.'s No. 1 Turbeville swabbed 150 bbls. from broken oil sand at 1,491-92½ feet and solid sand 1,492½-94 feet. Caldwell and Consolidated Oil Co.'s No. 6 Hutcheson was dry and abandoned at 1,448 feet after getting a small show and salt water at 1,374-78 feet. Empire Gas & Fuel Co.'s No. 1 Parkey pumped 163 bbls. at 1,562-69 and 1,571-73½ feet. Johnson & Harris' No. 1 Andrews was dry and abandoned at 1,509 feet. Kentucky Oil Corp.'s No. 2 Wilson-N was estimated good for 25 bbls. at 1,401-08 feet and was being put on the pump. Panhandle Refining Co.'s No. 1 Newell was dry and abandoned at 1,852 feet.

Shaw and others' No. 8 Wilson-B was shot with 8 quarts and cleaning out, estimated good for 5 bbls. only from sand at 1,580-85 feet. Simms Oil Co.'s No. 2 Turbeville-A pumped 215 bbls. from sand at 1,529-35 feet; No. 3 was cementing the 6-inch casing with a small show at 1,531-33 feet. Sun Oil Co.'s No. 1 Stonewall Jackson Camp was dry and abandoned at 1,761 feet. Cook & Reeder's No. 2 Kunkel swabbed 250 bbls. at 1,165-70 feet and was being put on the pump. Cosden and Consolidated Oil Co.'s No. 1 Connor was dry and plugged at 1,450 feet with no sand. Gates and others' No. 3 Thomas pumped 75 bbls. at 1,152-67 feet; No. 4 swabbed at the rate of 100 bbls. at 1,147-66½ feet and was being put on the pump. Golding & Cochran's No. 1 Crawford was estimated good for only 5 bbls. in broken sand at 1,214-37 feet and was being put on the pump; No. 2 Prideaux made 4 bbls. at 590-96 feet. Humble Oil & Refining Co.'s No. 15 Hamilton was dry and abandoned at 1,252 feet, no sand; No. 1 Kunkel made 6 bbls. of oil and 32 bbls. of water at 1,159-63 feet. Lewis Oil Corp.'s No. 4 Prideaux was dry and abandoned at 750 feet. It was plugged back to 477 feet to make a water well. M. & V. Oil Co.'s No. 7 Kunkel pumped 65 bbls. at 1,171-75 feet; No. 8 Kunkel pumped 25 bbls. at 1,174-76 feet.

Murchison & Fain's No. 4 Deitrich was dry and abandoned at 1,177 feet with salt water at 1,172-77 feet; No. 5 Deitrich pumped 10 bbls. at 1,175-78 feet; No. 1 Logan-D was dry and abandoned at 1,277 feet, dry sand at 1,246-54 feet. Muse & Robinson's No. 1 Skinner & Smith was a failure at 1,504 feet, having dry sand at 1,434-60 feet. Pandem Oil Corp.'s No. 1 Abercrombie was estimated a 15-bbl. well at 1,129-39 feet and was put on the pump; No. 2 Hudson was also put to pumping at 1,135-47 feet; No. 4 Thomas was completed at 1,153-63 feet pumping 75 bbls.; No. 5 swabbed 150 bbls. at 1,152-67 feet.

Plains Production Co.'s No. 2 Prideaux had sandy lime at 689-706 feet and after a 25-quart shot made 5 bbls. Prairie Oil & Gas Co. abandoned location for No. 1 Thomas. Tidal Oil Co.'s No. 1 Farmer-B was dry and abandoned at 1,603 feet, having dry sand at 1,517-18½ feet. United Production Co.'s No. 2 Prideaux-B had 200 feet of oil in the hole and was put on the pump.

Baylor County

Magnolia Petroleum Co.'s No. 8 Portwood, dry and abandoned at 1,900 feet.

Brown County

Curry & Moore's No. 1 Church lot was dry and plugged at 1,213 feet; No. 1 Wooldridge was a 200-bbl. well at 1,231-59 feet, total depth 1,260 feet. Gibson Oil Corp.'s No. 1 Carmichael pumped 3 bbls. at 2,084 feet but was not completed; No. 1 White was shot with 40 quarts and estimated good for 25 bbls. at 1,226-36 feet. Gilman & McMurray's No. 9 Teston had sand at 1,235-49 feet, shot with 20 quarts and estimated good for 60 bbls. Hoffman's No. 3 Kilgore Brothers made 20 bbls. at 1,279-89 feet; No. 4 was shot with 10 quarts and estimated at 15 bbls. in sand at 1,283-93 feet. Humble Oil & Refining Co.'s No. B-9, J. H. Allen made 3 bbls. at 1,132-42 feet; No. 3-C E. P. and W. H. Kilgore was a 200-bbl. well in sand at 1,157-77 feet; No. 4-C Kilgore made 60 bbls. at 1,165-79 feet; No. 5-C was on top of the sand at 1,165 feet with a show of oil and gas; No. 2-D was testing sand at 1,163-73 feet, total depth 1,174 feet; No. 1 Kilgore Brothers had dry sand at 1,300-08 feet and was drilling at 1,315 feet; No. 5 Leatherwood made 5 bbls. from sand at 1,145-55 feet.

Kone Production Co.'s No. 1 Foster made 200 bbls. at 1,167-95 feet. McKenna's No. 5 Foster was good for 600 bbls. at 1,153-77 feet. McLester Oil Co.'s No. 6 Wooldridge was shot with 30 quarts at 1,229-59 feet and made 75 bbls. Midwest Exploration Co.'s No. 8 Suttles was shot with 20 quarts at 1,177-92 feet and made 15 bbls. Mimms and others' No. 1 Purcell was dry and abandoned at 1,810 feet.

Pandem Oil Corp.'s No. 5 Westerman was a failure at 1,317 feet and plugged. Phillips Petroleum Co.'s No. 3 Prater made 40 bbls. at 1,280-87 feet, total depth 1,303 feet. Prairie Oil & Gas Co.'s No. 2 Trammel was drilling sand at 1,369-77 feet with a show of oil. States Oil Corp.'s No. 1 Eubanks was temporarily abandoned at 1,665 feet. The Texas Company's No. 1 Johnson was shot with 20 quarts at 1,279-87 feet and made 20 bbls.; No. 1 Stout had 5,000,000 feet of gas at 1,163-78 feet and was shut down at 1,190 feet. West and H-Y Oil Co.'s No. 8 Newton made 15 bbls. at 1,180-1,205 feet.

Callahan County

Gibson & Johnson abandoned the location for No. 1 Williams. Goodloe & Duffy's No. 1 Jackson was dry and abandoned at 1,208 feet. Moore's No. 1 Huling was dry and abandoned at 2,435 feet. Prairie Oil & Gas Co.'s No. 3 Bond made 60 bbls. at 1,392-1,408 feet. No. 9 McDonough was a 20-bbl. well at 1,397-1,412 feet.

Coleman County

Wright & McNallen's No. 1 Hutchings was dry and abandoned at 2,303 feet. Canary and others' No. 1 Ellis had 4,000,000 feet of gas in sand at 1,343-59 feet. Van Eman and others plugged No. 1 Deavers as a failure at 1,604 feet.

Comanche County

Caddell & Davis' No. 1 Capers was dry and abandoned at 965 feet.

Cooke County

C. C. Lanier and others' No. 3 A. Hyman had sand at 1,239-42 and 1,249-51 feet with showings of oil. When deepened to sand at 1,264-69 feet it swabbed 10 bbls. an hour with some water.

Eastland County

Corzelius Brothers' No. 1 Garrett was dry and abandoned at 3,565 feet. Shinholt & Haslip's No. 1 Fox topped sand at 1,230 feet, estimated at 5,000,000 feet of gas, total depth 1,240 feet. Texas Pacific Coal & Oil Co.'s No. 1 Van Norman fee had 200,000 feet of gas at 1,015-58 feet and was drilling at 1,390 feet. Jake Hamon, Jr. and Conley's No. 1 Murrell was shut down at 1,495 feet with a hole full of water. It had a broken sand estimated good for 3 bbls. at 1,332-40 feet.

Erath County

Davisson and others' No. 1 Koonsman had a trace of oil at 2,095-2,130 feet and 3,000,000 feet of gas at 2,314-44 feet. It was shut down for orders. Welsh and others' No. 1 Smith swabbed 60 bbls. in 12 hours at 2,950 feet.

Jack County

Cowboy Oil Co.'s No. 1 Bloodworth-B was dry and abandoned at 712 feet with dry sand at 620-35 feet. W. M. Edington abandoned location for No. 1 Barry. Guthrie and others' No. 5 Snedeker pumped 15 bbls. at 782-90 feet. Hester, Hawkins & Staley's No. 1 Snedeker was dry and plugged at 812 feet with no sand; No. 2 Snedeker was estimated good for 25 bbls. at 789-92 feet.

Montague County

F. H. E. Oil Co.'s No. 1 Howard-B, oil sand 1,134-50 feet, 35 bbls. Humble Oil & Refining Co.'s No. 2 Maddox pumped 220 bbls. at 858-67 feet, total depth 880 feet; No. 3 Maddox was completed as a 21,500,000-foot gasser at 680-86 feet, total depth 688 feet. The Texas Company's No. 13 Gist-A made 45 bbls. at 906-20 feet; No. 14 Gist-A made 7 bbls. at 911-31 feet, total depth 940 feet; No. 2 Gist-B pumped 40 bbls. at 876-83 feet, total depth 883 feet; No. 1 Martin swabbed 200 bbls. and some water from sand at 1,169-71 feet and pumped 160 bbls. of oil and 8 bbls. of water. Texhoma Oil & Refining Co.'s No. 3 Rowland swabbed 45 bbls. in 6 hours at 1,009-12 and 1,014-27 feet, total depth 1,074 feet and pumped 95 bbls. in 24 hours.

Shackelford County

Humble Oil & Refining Co.'s No. 7 Cook was shot with 15 quarts at 1,310-25 feet and estimated good for 150 bbls. Independent Oil & Gas Co.'s No. 1 Davis was dry and abandoned at 1,573 feet. Merry Brothers and Perini's No. 1 Newell was dry and abandoned at 1,566 feet. Moutray Oil Co.'s No. 3-B Snyder was also a failure at 2,278 feet.

Stephens County

Mid-Kansas Oil & Gas Co.'s No. 1 Lee was dry and plugged at 4,583 feet. Eidson and others' No. 2 Houston had 7,500,000 feet of gas and was spraying 5 bbls. of oil at 1,861-1,951 feet. Mook-Texas Oil Co.'s No. 5 Head made 30 bbls. at 2,135-50 feet. Texas Fidelity Oil Co.'s No. 2 Parks was dry and abandoned at 3,900 feet. Texas Pacific Coal & Oil Co.'s No. 63 Binney had 1,000 feet of oil in the hole after plugging back to

(Continued on Page 125)

XUM

Significant extracts of decision rendered in favor of the Moore Derrick (Neill patent) by the U. S. Court of Appeals for the Third Circuit.

FIRST INSTALLMENT

(to be continued in next issue)

"The derrick of the patent is singularly simple. It is excelled in that regard by no other derrick shown in the testimony. Its simplicity is its chief claim to excellence . . . . . In design it is simpler than a child's Meccano, and in assembling and putting together its parts, less thought is required than in putting together that toy.

"The parts are so formed in shape and size that they fit only their proper places and cannot be put together wrong. In this respect they are fool-proof. They may be assorted and put in place entirely by unskilled labor with the aid of no other tool than a wrench.

"The sections are so arranged in dimensions that as the structure rises it may be used as its own scaffolding. The clamp sockets fit only the places intended for them, and to the clamp sockets are connected the girts and braces in the only place in which they can be fastened, the tension of all parts being estimated and perfected in the shop, thereby dispensing with mechanical adjustments or manipulation in the field.

"The structure may be disassembled as readily as assembled, again acting as its own scaffolding. It may be transported at lower cost because of its lesser weight and without the damage usual to threaded and delicate parts of other metal designs."

MOORE TUBULAR STEEL DERRICKS

Lee C. Moore & Co., Inc.
Established 1907
Pittsburgh, Penna. Tulsa, Okla.

Seminole Pool Still Center of Interest

Independent-Garland Well Maintaining Big Production of High Gravity Crude. Two Good Wewoka Completions

By J. L. Dwyer
Staff Correspondent, Oklahoma Fields

The Seminole County Field still dominates the attention of the fraternity in Oklahoma. The Independent Oil & Gas Co.-Garland's No. 1 Fixico, SW cor. NE, Section 26-9-6, is making 5,540 bbls. daily of high gravity oil. Aside from this field there is a scattered activity throughout the State with no unusual performances.

Production of the Wewoka Deep Sand Field was increased by the completion of a couple of new wells; Dixie Oil Co.'s No. 3 Knight, C NE SW NE, Section 6-7-8, made 810 bbls. the first 24 hours from the deep Wilcox sand at 4,136-51 feet. W. R. Ramsey's No. 2 Salinds, completed 10 days ago, is making 800 bbls. of oil and 100 bbls. of water from this sand. This well is located NE cor. NW SE, Section 31-8-8. Magnolia Petroleum Co.'s No. 10 Skinner, SE cor. SW NW NW, Section 5-7-8, is making 45 bbls. an hour from sand 4,152-72 feet.

The Burbank Field of Osage County has a few new wells. Phillips Petroleum Co.'s No. 11, SW cor NE SW, Section 21-26-6, made 300 bbls. from the Burbank sand, at 2,903-59 feet. No. 15, NW cor. NE SW, Section 7-26-6, made 200 bbls. after a shot of 110 quarts in sand 2,950-3,007 feet. No. 5, NW cor. SW NE, Section 12-27-5, made 165 bbls. after a shot of 100 quarts in sand 3,017-70 feet. The Lewis Oil Co.'s No. 7, SW cor. SE, Section 21-26-6, which was completed some time ago for 430 bbls. after a shot of 75 quarts in sand 2,886-2,934 feet, is reported as going to water.

The Tidal-Osage Oil Co.'s No. 1, SE cor. SE, Section 1-23-8, made 92 bbls. from sand 2,434-62 feet.

Other Active Areas

In Pottawatomie County, Wrightsman and others' No. 1 Hibbard, NW cor. NE SE, Section 20-6-4, had a showing of oil in sand 3,172-80 feet. The pipe is being underreamed at 3,200 feet.

In the north end of the Seminole Pool, the Tidal Oil Co.'s No. 2 Mayhue, SE cor. NE SW, Section 24-9-6, gauged 789 bbls. from sand 3,966-4,003 feet. The combined daily production of the wells in both ends of these pools has now passed 13,000 bbls.

In Hughes County, the Magnolia Petroleum Co.'s No. 1 King, SW cor. NW. Section 18-9-9, had a showing of gas in sand 3,311-20 feet.

A well in the Burbank Field, which responded very well to the shot is Phillips Petroleum Co.'s No. 12, SE cor. NE NE, Section 12-27-5. It had the sand 2,952-3,004 feet, and made 218 bbls. naturally. After a shot of 100 quarts it made 1,200 bbls. the first 11 hours.

One of the most closely observed wells in the State is the Independent Oil & Gas Co. and Darby Petroleum Co.'s No. 1, in Section 15-7-4, Pottawatomie County. This well is in the Hunton lime and has a total depth of 3,653 feet. It is flowing about 75 bbls. daily and the 5-inch casing is being pulled. The 6-inch will be underreamed, and the well drilled deeper.

Osage County Completions

Kewanee Oil & Gas Co.'s No. 1, SW cor. NE of Section 34-27-6e, is completed for 236 bbls. of 39.7 gravity oil. Top of sand at 2,785-94 feet. Pure Oil Co.'s No. 88, SW cor. SE NW Section 11-27-10e, had Whiting sand at 1,197-1,250 feet and made 80 bbls. of 36 gravity oil. Sinclair Oil & Gas Co.'s No. 1, SW cor. SE, Section 21-25-6e, is dry and plugged at 2,870 feet. The Lewis Oil Co. has completed No. 2, SE cor. NE NE in Section 30-25-8e for 130 bbls. of 39 gravity oil. Had Burgess sand at 2,494-2,523 feet. Robinson and others' No. 1, NE cor. SE NW, Section 1-25-11e, has been plugged. Top Mississippi lime at 1,770 feet, second break at 2,025-40 feet, 28,000,000 feet of gas, total depth 2,184 feet. Lost tools trying to plug back to 2,040 feet. Barnsdall Oil Co.'s No. 5 was shot with 100 quarts in sand at 1,663-1,770 feet, pumping 5 bbls. of 34 gravity oil, completed. The Tidal-Osage's No. 1, SE cor. SE, Section 1-23-8e, is completed for 500 bbls. of 40.3 gravity oil. Cleveland sand at 1,395-1,480 feet; Oswego lime at 1,727-60 feet; Bartlesville sand at 2,033-60 feet, 3,000,000 feet of gas; Burgess sand at 2,138-53 feet; show of oil sand at 2,434-2,411 feet. Continental Oil Co.'s No. 3, SE cor. NW SE, Section 5-23-9e. Completed in the Burgess sand at 2,112-50 feet for 100 bbls. of 34 gravity oil. Barnsdall Oil Co.'s No. 10, CSL NW SW, Section 17-23-12e, pumping 5 bbls. of 34 gravity oil. Tucker sand at 1,605-1,619 feet, completed. Silurian Oil Co.'s No. 49, SE cor. NW, Section 17-23-12e. Shot with 100 quarts. Bartlesville sand at 1,481-1,535 feet, 40 bbls. of 34 gravity oil, total depth 1,540 feet, completed. Freedman and others No. 9, CEL SE SE, Section 18-22-11e, shot with 55 quarts. Bartlesville sand at 1,721-37 feet, 10 bbls. 34 gravity oil, completed. T. K. Smith's No. 1, SE cor. NE NE, Section 5-22-12e, completed in the Burgess sand at 1,850-64 feet, on the pump for 60 bbls. Kewanee Oil & Gas Co.'s No. 1, SW cor. SE NW, Section 17-21-12e, completed for 40 bbls. of 34 gravity oil, in sand at 1,319-39 feet, shot with 80 quarts.

Osage County New Work

Oliphant and others have made a location for their No. 5, SE cor. SW NW, Section 17-27-6e. Peters and others made a location for No. 1, SW cor. NE, Section 20-27-6e. Prairie Oil & Gas Co. made location for No. 12, SE cor. NE SE, Section 21-25-6e, and is building rig for No. 13, NE cor. SE, Section 21-25-6. Carter Oil Co.'s No. 2 C. T. Wills, SE cor. NW SE, Section 6-24-8e, are drilling at 620 feet. No. 3, NE cor. SW SE, Section 6-24-8, drilling at 690 feet. Carter's No. 2 C. F. Lake, Section 6-24-8e, drilling at 100 feet. Twin State Oil Co.'s No. 1, SE cor. NE, Section 12-23-8e, drilling at 345 feet and building rig for No. 2, NE cor. NE, Section 12-23-8. Comar's No. 1, SW cor. SW, Section 6-23-9e, building rig. Tuloma Oil Co.'s No. 16, NW cor. SE SE, Section 18-22-10e, drilling at 150 feet. Tidal-Osage Oil Co.'s No. 19, SW cor. NE SW, Section 34-22-10e, drilling at 100 feet.

Phillips Petroleum Co.'s No. 7, NW cor. SE NE, Section 12-27-5e, is drilling at 230 feet.

Osage County Completions

Phillips Petroleum Co.'s No. 3, SW cor. SE NE, Section 2-27-5e, no sands, dry and plugged at 3,037 feet. Skelly Oil Co.'s No. 2, NE cor. SE NW, Section 2-27-5e, sandy shale at 2,910-15 feet, dry and plugged at 2,955 feet. Phillips Petroleum Co.'s No. 13, NW cor. NE, Section 12-27-5e, shot with 120 quarts at 2,970-3,018 feet, 250 bbls. 39 gravity oil, completed. Skelly Oil Co.'s No. 6, NE cor. NW SW, Section 26-27-5e, completed after a shot of 80 quarts for 60 bbls. of 38 gravity oil. Shot from 2,937-58 feet.

Kay County Completions

Comar Oil Co.'s No. 1 Day, NE cor. SE, Section 20-29-1w, top siliceous lime at 3,423 feet, big pay at 3,433-37 feet, 2,038 bbls. oil and 10 per cent b.s. and water. Completed. Marland Oil Co.'s No. 1, E. H. Brokehausen, NE cor. SE, Section 17-29-1e, completed for 260 bbls. of 42.6 gravity oil in the pay sand at 3,373-83 feet. Had gas at 3,365 feet. Braman Oil Co.'s No. 1 Community, CSL SE SW, Section 5-28-1w, completed in the Layton sand at 2,775-86 feet for 383 bbls. 42.6 gravity oil. Top of sand was at 2,752 feet. (This is the only Layton sand well to be drilled in South Braman Pool that did not carry water along with oil.) Comar Oil Co.'s No. 1-W Horne (twin to No. 1), CNL NE NW, Section 8-28-1w, swabbed 183 bbls. in the Layton sand at 2,782-2,808 feet, completed.. Twin State Oil Co.'s No. 1 Harris, NE cor. SE NW, Section 31-27-2e, shot with 15 quarts from sand at 2,455-93 feet, 28½ bbls. oil; shot with 40 quarts in sand at 2,476-88 feet, 15 bbls. oil. Hole full of water at 2,504 feet, plugged back to 2,501 feet and completed for 28½ bbls. Marland Oil Co.'s No. 3-A Hochsteter (twin to No. 3), NE cor. SW, Section 1-26-2w, was shot with 20 quarts in Layton sand at 2,953-73 feet, completed for 189 bbls. Marland Oil Co.'s No. 6 Hubbard, SW cor. NE, Section 12-26-2w, swabbed 28 bbls. naturally in Layton sand at 2,943-58 feet. Shot with 20 quarts at 2,942-56 feet, 140 bbls. of 37.8 gravity oil, completed.

Kay County New Work

Comar Oil Co. has made location for No. 4 Lawrence, SW cor. SE NW, Section 5-28-1w. Blackwell Oil & Gas Co. has made location for No. 3 R. H. Jamison, NW cor. NE SE, Section 5-27-1w, and are building rig for its No. 4, SE cor. NE SE, Section 5-27-1w. Blackwell Oil & Gas Co. is building rig for a Wilcox sand test on its No. 2 L. Bracken, SE cor. NE SW, Section 8-27-1w. Marileen Oil Co. and Phillips Petroleum Co.'s No. 4 Burkhalter, SE cor. NE NW, Section 9-27-1w, are drilling at 125 feet. Prairie Oil & Gas Co. is making location for No. 5 Jones, NW cor. SW NW, Section 10-27-1w. Gypsy Oil Co.'s No. 1 J. A. Hauk, NE cor. NW NE, Section 33-25-1w, drilling at 135 feet.

Noble County Completions

Mid-Continent Petroleum Corp. and Marland Oil & Refining Co.'s No. 12 Talbot, NE cor. SW SE, Section 16-24-1w, was shot with 15 quarts from 1,983-2,003 feet, swabbing 30 bbls., total depth 2,005 feet, completed. Champlin Refining Co.'s No. 3 Smithhisler, SW cor. NE NE, Section 21-24-1w, dry and abandoned at 2,007 feet. Magnolia Petroleum Co.'s No. 1 A. Weeder, NW cor. NE, Section 22-21-2w (lost hole at 1,100 feet, skidded rig), sand at 2,437-41 feet, show of oil at 4,476 feet, total depth 4,977 feet, water. Plugged back to 4,507 feet, shot with 50 quarts at 4,450-4,502 feet, 55 bbls. first 24 hours, now pumping 5 bbls., completed.

Garfield County Completions

Wilcox Oil & Gas Co.'s No. 1 J. Hennessey, SE cor. SW, Section 15-23-5w, dry and abandoned at 4,575 feet. Sinclair Oil & Gas Co.'s No. 51 C. K. Walker, CSL SE NE, Section 13-22-4w, swabbing 27 bbls. from sand at 2,722-25 feet. Same company's No. 52 Walker, NW cor. SE NE, Section 13-22-4w, completed for 1,407 bbls., sand at 3,624-60 feet. Healdton Oil & Gas Co.'s No. 33 Belveal, C NW NE, Section 24-22-4w, sand at 1,115-22 feet, 10 bbls., total depth 1,124 feet. Sinclair's No. 16 Metscher, SE cor. NE, Section 36-22-4w, 6 bbls. from sand at 2,175 feet. Roxana Pe-

SKELLY WELL WEST OF MALJAMAR MAKING 500,000 FEET OF GAS

By Staff Correspondent

ARTESIA, N. Mex., July 30.—The Skelly Oil Co.'s test in Section 22-17-31, 5 miles west of the Maljamar's Lea County wildcat, is now the center of interest due chiefly to the fact the well is making 500,000 feet of gas from around 2,000 feet and also on account of the formations running 250 feet higher than in the Maljamar producer. The Skelly well has been drilled in record time, the hole now being close to 2,200 feet. Geologists working this country believe that an oil sand is due to be picked up in the next 50 feet. Elevations taken by The Texas Company's men show the elevation of the Maljamar well to be 4,025 feet, the Skelly 3,921 and the Wooley-Jones No. 1 on the Beeson permit, in Section 33-17-30, to be 3,603 feet. The average elevation of the Artesia Field is 3,550 feet with the regional dip in the southeastern part of the State about 60 feet to the mile.

Drilled to 2,999 feet, the Wooley-Jones has been put on the pump in the hope of determining where the salt and sulphur water is breaking in. This well at the present depth will make a small producer providing the water can be shut off, there being close to 600 feet of oil standing in the hole. From all appearances some good production will be obtained in the vicinity of the Wooley well with wells drilled higher on the structure.

Cleaning out continues on the Maljamar with the tools 100 feet off bottom. The well is making around 200 bbls. of pipeline oil daily, this being sold for fuel to others drilling in Lea County. The salt water that broke through following the shot appears to be diminishing. When the bottom of the hole is reached cement will be set around 4,132 feet. Since the first showing was obtained in the Maljamar 90 days ago, over 2,000,000 acres of leases have changed hands in eastern Eddy County and southern Lea County, the majority being bought by the major companies and large independents.

Artesia Pool

In the Artesia Pool, Dave Compton has drilled 45 feet of sandy lime in his No. 2 Mann permit well in Section 5-18-27, the bottom of the hole being 2,005 feet. It is his intention to shoot with about 200 quarts as the formation is not giving up the oil as freely as other wells in the field.

Phillips & Welch have picked up 1,000,000 feet of gas in their No. 1 well in Section 35-17-28, at a depth of 2,025 feet. This is located a mile and a half northeast of the productive area in Sections 3 and 4 in Township 18, Range 28.

A fire at the refinery of the Continental Oil Co. and Flynn-Welch-Yates Friday night damaged the plant to the extent of $25,000, according to officials of the company. This was the second blaze in two nights, each apparently being caused by a broken gasket in a gasoline line.

Three strings of rotary tools are now being moved into the eastern part of the State and this type of drilling equipment will probably take the place of cable tools.

Eddy County

Colorado Drilling Co.'s No. 1 Irvin, Section 8-16-27, drilling past tools at 1,500 feet, water shut off; Dave Compton's No. 2 Mann permit, Section 3-18-

(Continued on Page 113)

troleum Corp.'s No. 1 L. H. Schroeder. NW cor. SW SW, Section 18-22-3w, sand at 3,590-3,605 feet, 508 bbls. Sinclair's No. 36 Hartley, NW cor. SW NW, Section 18-22-3w, flowing 40 bbls. from sand at 3,111 feet. Same company's No. 41 Hartley, SW cor. NW, Section 18-22-3w, had sand and sandy lime at 3,050-3,107 feet, total depth, completed for 120 bbls.

No new work in Garfield County.

Pawnee County Completions

Haley-Garber-Pulse's No. 3 D. N. Phillips, SE cor. NW NE, Section 5-23-5e, (well drilled deeper) sand at 3,582-89 feet; hole full of water; total depth 3,630 feet; plugged back to 3,288 feet, sand at 3,268-88 feet, completed for 5 bbls. oil and 50 bbls. water. Champlin Refining Co.'s No. 1-A Diamond, NE cor. SE, Section 5-22-3e, sand at 4,145-69 feet, swabbed 75 bbls., shot with 30 quarts, completed for 120 bbls. Magnolia Petroleum Co.'s No. 2 Fugate, NE cor. NW SW, Section 9-20-6e, sand at 3,005-15 feet, shot with 15 quarts, 15 bbls. Superior Oil Co.'s No. 1, CSL SW NE, Section 9-20n-7e, completed for 5,000,000 feet of gas from sand at 2,595-2,612 feet.

Pawnee County New Work

Stacey & Vaughn have rig on ground for No. 1 J. P. Wiley, NE cor. NW SW, Section 6-20n-5e. Jim Moore's No. 1 Townsite, SW cor. SE SE, Section 25-20n-9e, drilling at 300 feet. B. E. Kennedy's No. 1 G. J. Jack, NW cor. SW NW, Section 18-20n-10e, drilling at 300 feet.

Payne County Completions

Roxana Petro eum Corp.'s No. 2 Stover, NW cor. SW SW, Section 13-19-4e, dry and abandoned at 3,793 feet. Same company's No. 5 Stover, NW cor. SW SW, Section 13-19-4e, dry and abandoned at 3,734 feet. Same company's No. 6 Stover, SW cor. NW SW, Section 13-19-4e, abandoned at 1,570 feet. Prairie Oil & Gas Co.'s No. 1 Shannon, SE cor. NW SE, Section 14-19-4e, sand at 3,727-30 feet, 30 bbls.; sand at 3,845-47 feet, hole full of water; plugged back to 3,732 feet and completed for 30 bbls. Magnolia Petroleum Co.'s No. 1 Stover, NE cor. SE NE, Section 23-19-4e, dry and abandoned at 4,227 feet. Gled Oil Co.'s No. 2 L. Ross, CNL NW SW, Section 13-10-8e, shot with 5 quarts, Wilcox sand at 2,876-81 feet, completed for 100 bbls. of 38 gravity oil.

Payne County New Work

Burlingame & Sharp's No. 9, NE cor. SW NW, Section 13-19-8e, drilling at 1,500 feet. Also No. 10, CWL SW NW, Section 13-19-8e, is drilling at 600 feet. Deep Rock Oil & Gas Co. is building rig for No. 5 Barth, SW cor. NW NE, Section 26-18-3e. The T. C. & M. Oil Co. is spudding in No. 5 Waltman, SE cor. NE NW, Section 26-18-3e. Magnolia Petroleum Co. made location for No. 1 Thomas, SE cor SW. Section 31-18-4e.

Tulsa County Completions

Prairie Oil & Gas Co.'s No. 2 W. B. Bales, CSL SW NE, Section 23-19-10e, completed in Red Fork sand at 1,770-1,815 feet for 100 bbls. of 36 gravity oil. Ellen Oil Co.'s No. 6 M. Island, SE cor. NE NE, Section 12-19-11, completed for 1,000,000 feet of gas at 1,100 feet.

Tulsa County New Work

Holmes and others' No. 1-A K. Doyle, C NE SW, Section 16-19-10e, spudding. W. E. Brown's No. 4, NW cor. SE SW, Section 23-19-10e, is drilling at 540 feet. He is also rigging up for No. 5, CNL SE SW of same section. Continental Oil Co.'s No. 1 Postoak, SW cor. NE, Section 29-11-12e, is drilling at 400 feet. Suppes and others' No. 1 C. F. Ricketts, SW cor. NW. Section 5-17-13e, spudding. W. E. Holmes' No. 2 Riverbed, CNL NE SW, Section 11-17-13e, spudding. Franchot and Mid-Continent Petroleum Corp.'s No. 11 John Soffie, CEL SW NW, Section 22-17-13e, drilling at 600 feet.

Creek County Completions

Magnolia Petroleum Co.'s No. 29 E. Coker, SE cor. NW NW, Section 16-18-7e, sand at 2,500-35 feet, 25 bbls. oil and 56 bbls. water. Gray Oil Co.'s No. 3 A. Leader, C NE NE, Section 3-18-11e, Wilcox sand at 2,206-31 feet, Turkey Mountain sand at 2,405-12 feet, total depth, completed for 125 bbls. from both sands. Sun Ray Oil Co. and Munn Brothers' No. 5 A. Grayson, CNL NE NW, Section 6-18-12e, sand at 2,046-66 feet, completed for 30 bbls. of 38.5 gravity oil. Mid-Continent Petroleum Corp.'s No. 25 J. Cole, SE cor. NW SE, Section 7-18-12, sand at 2,969-73 feet, 70 bbls. Aztec Oil Co.'s No. 6 O Johnson, CWL SE SE, Section 14-17-8e, sand at 2,739-54 feet, shot with 20 quarts and made 20 bbls. oil and 3 bbls. water. F. R. Billingslea's No. 1 L. Bruner, SE cor. SE, Section 17-17-8e, top of Wilcox sand at 3,492 feet, show of oil; best pay sand at 3,523-33 feet, swabbed 117 bbls. naturally; shot with 20 quarts at 3,515-33 feet and made 281 bbls. the first 24 hours, 210 bbls. second 24 hours after shot, completed. (First Wilcox well for this vicinity, prospects favorable for Wilcox sand pool. The Texas Company's No. 3 Simmons. SE cor. SW SE, Section 3-17-9e, shot with 70 quarts at 2,045-2,081 feet and made 168 bbls. of 40 gravity oil the first 24 hours; now making 100 bbls. Kirchner and others' No. 2-A Ko-Co-Con-Nay, CSL NE SE, Section 23-17-10e, dry and abandoned at 2,538 feet. Nowata Oil & Refining Co.'s No. 1 P. Tiger, NW cor. NE NE, Section 26-17-10e, dry and abandoned at 2,910 feet. H. C Wilson's No. 2 L. Bucktrot, NW cor. SW SW, Section 26-17-10e, dry and abandoned at 2,455 feet. W. J. Sherry's No. 1, SE cor. NW NE, Section 12-16-10e, dry and abandoned at 3,012 feet. Tidal Oil Co.'s No. 2 S. Jim, NW cor. NW, Section 31-15-8e, shut in for 14,000,000 feet of gas in Dutcher sand at 3,207-19 feet. Prairie's No. 4 F. White, NE cor. NE, Section 11-14-8e, sand at 2,402-52 feet, shot with 40 quarts and completed for 86 bbls. C. G. Tibbens' No. 10 E. Sewell, SE cor. NE NE, Section 13-14-8e, completed in Peru sand at 2,383-2,424 feet for 40 bbls.

Creek County New Work

Sunray Oil Co.'s No. 7 B. Sango, SW cor. SE NW, Section 6-18-12e, drilling at 600 feet. Mid-Continent Petroleum Corp.'s No. 26 J. Cole, SE SE SW SW, Section 15-17-7e, spudding. Prairie's No. 40 Litchfield, SE SE NW NW, Section 22-17-7e, drilling at 320 feet. Shaffer Oil & Refining Co. has made a location for No. 1 L. Morrison, SW cor. SW, Section 16-17-8e. Devonian Oil Co. and Billingslea have rig on ground for No. 1, NE cor. SW NE, Section 20-17-8e. Burke-Gries and Darby's No. 1 L. Scruggs, NE cor. NE Section 21-17-8e, building rig. Savoy Oil Co.'s No. 3 W. Walker, SE cor. NE NE, Section 23-17-8e, drilling at 420 feet. The Texas Company's No. 4 E. Simmons, SW cor. SE SE, Section 3-17-9e, rig on ground and has made location for its No. 5 Simmons, SW cor. NW SE. Roxana Petroleum Corp.'s No. 2 M. R. Bruke, NE cor. NW NE, Section 10-17-9e, rig. Wilcox Oil & Gas Co.'s No. 1 Lindsey, SW cor. NE NE, Section 10-17-9e, rig. G. M. Oil Co. has made location for No. 1 T. Goodman, SW cor. NE, Section 23-17-9e.

O. M. Ireland's No. 1 S. Smith, NW cor. SE, Section 11-17-10e, rig. Ted-Ray Oil Co.'s No. 1 L. Brink, SE cor. SW, Section 13-17-10e, building rig. Chief Drilling Co.'s No. 1 T. Fulson, SE cor. SW SE, Section 16-17-10e, spudding. Independent Oil & Gas Co.'s No. 2 C. Dixon, SE cor. SW, Section 19-17-10e, is drilling at 400 feet. Mid-Continent Petroleum Corp.'s No. 2 D. L. Dawson, NE cor. NW SW, Section 24-17-10e, spudding. J. H. Wright's No. 10 T. Tahkaney, SE cor. NE NW, Section 24-17-10e, rig and tools. O. M. Ireland's No. 3 Freeman, SE cor. SE, Section 8-17-11e, is drilling at 500 feet. Shaffer Oil & Refining Co.'s No. 6, J. Wa-Co-Che, NE NE, Section 17-17-11e, drilling at 1,725 feet. Margay Oil Co.'s No. 3, SE cor. NE, Section 9-16-8e, spudding. Love & Myers' No. 1 T. Hendrickson, NE cor. SE NW, Section 21-16-9e, have rig on ground. C. G. Tibbens' No. 3 T. Hill, NE cor. SE, Section 35-15-8e, spudding. C. G. Tibbens has rig on ground for No. 32 Con-Mei-Sen-Nei, SE NE NE SW, in Section 30-15-9e. C. G. Tibbens' No. 1 J. Milley, SW cor. SE, Section 32-15-9e, rig. Scruggs & Carter Oil Co.'s No. 1 C. Grayson, SE cor. SE, Section 36-15-10e, rig (Wilcox test.) J. W. Henry's No. 4 W. Dovy, NE cor. NW SE, Section 2-14-8e, is drilling at 400 feet. Shaffer Oil & Refining Co. and Billingslea's No. 1 P. Coker, NE cor. NW NW, Section 17-14-8e, rig. C. G. Tibbens' No. 12 Johnson, CNL NW SE, Section 26-14-8e, rig. C. G. Tibbens has made location for No. 1 W. Barnett, NW cor. NW, Section 8-14-9e. Wood Oil Co.'s No. 1 J. Tiger, NW cor. SE, Section 25-14-9e, rig. Johnson & Ash's No. 1 R. Tiger, SE cor. SW, Section 9-14-10e, drilling at 350 feet. McMann Oil Co.'s No. 1 C F. Ingley, SW cor. SE, Section 9-14-10e, drilling at 250 feet. Atlantic Oil Production Co.'s No. 1 M. Tiger, SW cor. NW NE, Section 16-14-10e, drilling at 350 feet.

Lincoln County Completions

Madden and J. A. Hull's No. 1 Francis Davis, NW cor. SW NW, Section 35-16-6e, dry and abandoned at 3,820 feet. Magnolia Petroleum Co.'s No. 1 O. O. Owens, NW cor. NE SW, Section 8-15-6e, sand at 4,072 feet, 206 bbls. Magnolia Petroleum Co.'s No. 1 Elizabeth Slack, SE cor. SW NW, Section 8-14-5e, sand at 3,471-89 feet, made 25 bbls. after shot of 10 and 40 quarts.

Lincoln County New Work

Pure Oil Co.'s No. 1 E. C. Love, NE cor. SE, Section 21-14-5e, rig. The Texas Company's No. 1 B. Craig, SW cor. NW, Section 22-14-5e, rig. Mid-Continent Petroleum Corp.'s No. 1 J. Gordon, NW SW NE, Section 9-14-6e, rig (4,800-foot test.) Prairie Oil & Gas Co. has made location for No. 1 White, SE cor. SW NW, Section 35-14-6e.

Okmulgee County Completions

McCullough Oil Co.'s No. 1 M. P. Maxwell, NW cor. NE SE, Section 17-16-12e, is dry and abandoned at 2,540 feet. J. A. Swindler's No. 4 H. Montgomery, SE NE NW NW, Section 4-16-13e, is dry and abandoned at 2,245 feet. L. C. Wheeler's No. 1 C. Johnson, C SW SW, Section 18-15-12e, dry and abandoned at 2,779 feet. Payne and Selby Oil & Gas Co.'s No. 6 M. Frances (twin to dry hole), SW cor. SW, Section 15-15-14e, Wilcox sand at 2,244-55 feet, 293 bbls. of 40 gravity oil first 24 hours. (This well extends pool one-half mile east). Jolly & Ogg's No. 2 L. Alexander, CSL SE SW, Section 16-15-14e, Wilcox sand at 2,308-15 feet, 75 bbls. first 24 hours; show water 2,315-21 feet; plugged back to 2,315 feet; sand at 2,308-15 feet, 60 bbls. 40 gravity oil. Same company's No. 4 Alexander, CEL SE SW, Section 16-15-14e, Wilcox sand at 2,377-85 feet, 400 bbls. 40 gravity oil first 24 hours; now making 200 bbls. The Texas Company's No. 13 S. Garrett, NW cor. SE NE, Section 21-15-14e, is dry and abandoned at 2,600 feet. Burke-Greis Oil Co.'s No. 1-A Charles, SE cor. NE, Section 31-15-14e, dry and abandoned at 2,258 feet. R. E. Garrett's No. 1 T. Miller, SW cor. NW NW, Section 30-14-11e, dry and abandoned at 3,177 feet. J. G. Haas' No. 13 T. Golbert, NW cor. SW NW, Section 15-14-14e, made 15 bbls. after a 40-quart shot from sand at 1,176-86 feet. F. D. Misner, No. 10 S. Colbert, CEL SW SW, Section 16-14-14e, dry and abandoned at 800 feet. No sand. Ralso Oil Co.'s No. 7 S. Webster, CWL NE NE, Section 33-12-12e, completed for 25 bbls. after a shot of 40 quarts from sand at 1,475-1,500 feet. The Colorado Oil & Gas Co. has abandoned its location for No. 1-A G. T. Asbury, C NE SW SE, Section 32-11-12e.

Okmulgee County New Work

J. L. Selby's No. 1 Montgomery, C NE NE, Section 5-16-13e, spudding. W. H. Elson and Carter Oil Co.'s No. 1-A Grayson, NW cor. SE, drilling at 900 feet. The Texas Company's No. 1 Peters, NE cor. SW, Section 34-16-14e, is drilling at 1,300 feet. T. A. Johnson Co.'s No. 1-A Bighead, SW cor. SE NW, Section 10-15-12e, drilling at 150 feet. Gray Oil and Devonian Oil Co.'s No. 2 Peloche, CEL NE SE, Section 23-15-12e, rig. Same company has rig on ground for No. 3 Peloche, SE cor. NE SE, Section 23-15-12e. W. M. Hammond's No. 3 R. R. Douglas, NE cor. SW NW, Section 35-

(Continued on Page 48)

EXTENSION OF WIGGINS POOL IN GREENWOOD COUNTY, KANSAS

By J. L. Dwyer
Staff Correspondent, Kansas Fields

An extension of the Wiggins Pool of Greenwood County, was the most interesting news of the past week in Kansas. The Manhattan Oil Co. and Winters & Harwood's No. 3 Lindamood, NW cor. SE NE, Section 19-24-11, flowed 190 bbls. while being connected to the tanks. The sand record on this well is not available. After connections were made, the well swabbed 575 bbls. without being shot, and it appears to be the best well in the pool.

In the Winfield Pool in Cowley County, there are several wells nearing the siliceous lime, and within 10 days, some idea of the pool should be obtained.

Sumner County Completions

Marland Oil Co.'s No. 1 T. Schwartz, NW cor. NE NE, Section 27-34 2e, dry and abandoned, sand at 2,789-90 feet, estimated 5,000,000 feet of gas, chat at 3,474 feet, small show of oil at 3,496-98 feet, made one bailer oil per hour, total depth 3,533 feet, plugged back to 2,790 feet to save gas and water broke in.

Sumner County New Work

B. Rosenthal's No. 1 Unknown, SW cor. NW, Section 11-34-4w, a location. Marland's No. 1 A. M. Reese, SE cor. SW, Section 8-32-2w, is spudding. Roxana Petroleum Corp.'s No. 1 Mason, SE cor. NW, Section 25-31-2e, spudding. Roxana's No. 1 H. Rutter, SW cor. NE, Section 25-31-2e, drilling at 260 feet. Roxana's No. 1 Van Sickel, NW cor. SE, Section 25-31-2e, drilling at 260 feet.

Harper County Completions

Herron & Harvey's No. 1 Unknown, SE cor. SW NW, Section 30-32-6w, a location. Leases were in escrow to spud 5-26-26, which they failed to do and contract and lease are void and expired and block is abandoned.

Cowley County Completions

J. A. Hull Co.'s No. 4 Bartlow, NW cor. NW, shot with 170 quarts, sand at 2,985-3,042 feet and made 100 bbls. of 39 gravity oil.

Cowley County New Work

T. B. Slick's No. 1 East Carson, SW cor. NW, Section 20-32-3e, drilling at 250 feet. Gypsy Oil Co. is rigging up No. 1 H. Bishop, SE cor. SE, Section 13-32-4e. Marland Oil Co. is spudding its No. 6 Rockwell, SW cor. NW NE, Section 13-32-4e. J. A. Hull and others' No. 2 State Land, SE cor. NW, Section 15-32-4e, is drilling at 360 feet and are spudding their No. 3, SW cor. NW SE. J. A. Hull's No. 2 J. N. Wallace, SE cor. NE SW, Section 15-32-4e, is spudding. Marland Oil Co.'s No. 1 State Land, NE cor. SW SE, Section 15-32-4e, spudding. Trees Oil Co. is rigging up No. 1 J. N. Wallace 10 acres, SE cor. SW. Trees Oil Co.'s No. 6 Shaffer, NW cor. SE NE, Section 10-31-3e, is spudding.

Butler County Completions

Neal Mathews and Tidal Oil Co. have a dry hole at 2,790 feet in No. W. A. McCullough, NW cor. NE SE, Section 2-28-6e. H. H. Patten's No. 1 C. Shriber, NW cor. SW, Section 33-27-6e, is dry and abandoned at 3,184 feet. Sinclair Oil & Gas Co.'s No. 5 Barnhill, SW cor. NW SW, Section 22-27-7e, made 100 bbls. of 42 gravity oil after a shot of 20 quarts from sand at 2,722-57 feet. Boyle-Flack's No. 1 Barnhill, NW cor. SW, Section 23-27-7e, was good for 150 bbls. after a 120-quart shot in sand at 2,676-2,753 feet. Dixie Oil Co. has a dry hole at 2,801 feet in No. 5 W. J. Truesdale, NE cor. SW, Section 27-27-7e. Empire Gas & Fuel Co.'s No. 19 Boyer, SW cor. NE SW, Section 9-26-5e, got sand at 2,483-90 feet, and after a 40-quart shot made 10 bbls. of 33 gravity oil. Kismet Oil Co.'s No. 1 H. S. Kimball, SW cor. NW,

(Continued on Page 122)

XUM

Promising Wells in Southwest Texas

Rich Oil Sands Cored in Tests in Carolina-Texas Gas Field and in Cole Field in Duval County. Bruni Tract Prospects

By B. D. Stevenson
Staff Correspondent, Southwest Texas Fields

SAN ANTONIO, Tex., Aug. 2.—Two wells stand out prominently in the proven territory reports of southwest Texas the past week. United States Gas & Oil Co.'s No. 1 Benavides in the Carolina-Texas gas field, which has been standing for months at 2,100 feet due to lack of water for drilling, cored a rich oil sand at that depth when it resumed work last week. It is located about a half mile to the east and a little north of the Associated Oil Co.-Usher Carson No. 2 "A" Webster which was brought in on June 30 at a depth of 2,600 feet making high gravity oil, the first oil well in the Carolina-Texas gas field. The second producing sand in the field is thus a potentiality before any additional wells other than the discovery well have been completed to the first sand discovered. That there was a showing of oil in the United States Gas & Oil Co.'s well when it stopped drilling has been known for some time. It has not yet been proven to be a well but the core looks good and the well will be watched with the greatest interest. It is approximately 2,120 feet, total depth, and the oil is 21.17 gravity while the Associated-Carson well is 2,600 feet deep and the oil as it comes from the well is 36.6 gravity. The United States Gas & Oil Co. well tests the same gravity approximately as in the Mirando Field at 1,450 to 1,650 feet, the nearest production being 10 miles south of the Carolina-Texas Field. There is high gravity oil at 1,950 feet in the Schott Field immediately south of Mirando City but only a few wells have been completed since the production is rather small.

The bulk of the rigs in the Carolina-Texas district, that have been anxious to get down to the 2,600-foot horizon of the Associated-Carson well, are idle due to lack of water. Associated has a water line of its own and has four rigs running and furnished water to the United States Gas & Oil Co. test. Two of the Associated wells, the one offsetting the discovery well on the west and the one offsetting it on the east are practically to the 2,600-foot sand at this time and are expected to test out this week. The Texas Company is drilling its first well which is a north offset to the discovery well with a gasoline driven rig and is having hard work getting enough water even for it. It is down nearly 2,000 feet and will be on the sand by the last of this week. Magnolia expected to have a water line into the field by the end of last week.

United States Gas & Oil Co.'s No. 1 Benavides is in the northwest corner of Survey 679 and is 150 feet from the north and west lines. Associated owns the acreage next west of it in Survey 684.

Cole Field Revives

The other important well is the Barkley-Meadows and William F. Morgan well in Survey 323 in Duval County about 1½ miles north of the Cin-Tex Petroleum Co.'s discovery oil well in the Cole gas field. That field, though the discovery well was brought in early in the year, consists of only seven wells on a space of about 20 acres. The Barkley-Meadows and Morgan well topped the sand at 1,745 feet, approximately the same depth as the other wells further south and cored a rich oil sand. It drilled into the sand approximately 50 feet and bailed oil but got considerable water also. It is believed it drilled a little too deep. Col. A. E. Humphreys in association with Seagraves & Moody drilled on Block 5 of Section 10 a half mile south of the King-Harper test and completed two gas wells but in each they found over 60 feet of sand and the lower half of the sand seemed to carry an abundance of oil. They made several efforts to bring in the wells making oil but failed.

On the Barkley-Meadows and Morgan well seems to hinge for the present whether the new field will remain a pimple or extend and develop as a real field.

It will probably be a week or so before definite results are had from either the Barkley-Meadows and Morgan well or the United States Gas & Oil Co. well in the Carolina-Texas.

Webb County—Bruni Tracts

The number of drilling wells in the Bruni tract extension of the Mirando Field in Webb County was considerably reduced the past week by the large number of completions of the week before the rigs on which are being moved to new locations. Rydal-Crown Central have derrick up for No. 16 Bruni in Block 17, located 2,014 feet from the north and 200 feet from the east line; is rigging up on No. 17 in the west half of Block 43, located 150 feet from the north and 438 feet from the west line. Staley & Wynne have spudded in No. 18 Bruni in the west half of Block 18, location being 2,086 feet from the north and 200 feet from the east line and have spudded in on No. 19, located 618 feet from the north and 200 feet from the west line. Kennedy is drilling below 800 feet in the No. 5 Bruni in the northeast quarter of the east half of Block 13, location being 720 feet from the north and 150 feet from the west line. Murchison & Fain are down a few hundred feet in No. 4 Bruni in the southeast quarter of Block 13, location being 510 feet from the south and 150 feet the west line. Columbia Petroleum Co. has made location for No. 10 in block 77 of the Puig tracts, 337 feet east of No. 9, and is close to the sand in No. 9 and on the sand in No. 11 in the northeast corner of Block 76 of the Puig tracts.

Sun Oil Co. and Associated, the one on the north half of Block 44 and the other on the south half, are encountering salt water but are not through drilling. If they succeed in making wells it will save the day in the south end of the field. It looks now, however, as though the Ball well in the west half of Block 45 that extended the field a mile to the south is close to the south edge and the salt water in wells a little south of that either marks the limits of the field or the field shoots off to the east or may split and go both east and west. Sun Oil Co.'s No. 4 Bruni in the east half of Block 45, located 950 feet from the west line and 150 feet from the north line, went into salt water at 1,697 to 1,701 feet. The well is 1,100 feet east of Ball's No. 1 in the northeast corner of the west half of Block 45, that extended the field a mile south. Sun Oil Co. offset the extension well with a well in which it had some trouble at first but finally completed a good well and the salt water in No. 4 may eventually be shut out. Sun Oil Co.'s No. 5 in the north half of Block 44, which is the next block east of 45 and in the direction of production, tested dry at 1,720 to 1,729 feet. It is 1,780 feet from the west line and 200 feet from the north line of the lease. Depth of Ball's No. 1 Bruni in the northeast corner of the west half of Block 45 and about 3,000 feet west of the Sun Oil Co. well is not at hand but the depth of Ball's No. 2, located 300 feet south of No. 1, is 1,686 feet and it made a 150-bbl. well. A half mile due east of the Sun well is a string of four good producers along the north line of Block 43. Associated in the south half of Block 44 in the northeast corner drilled a well with a little showing of oil in two sands at 1,700 feet and a little below 1,700 feet but failed to complete a well. It has No. 2, located 150 feet south of the north line of the lease and 750 feet from the east line, down to where it is coring ahead to find the sand. If it makes a well it may indicate there is a non-producing spot in the Bruni tracts but if it fails it will be pretty conclusive evidence that production doesn't run any further south.

Gibson Oil Corp. lost the first No. 10 in the center of the south line of its lease in the north 60 acres of the west half of Block 13 and has been drilling a week on a replacement well. It should complete it some time this week. It is the last outside location to be drilled on the 60-acre lease. Harper and others have erected a derrick in Survey 835 immediately west of the Bruni tracts, and Simms on Block 10 of Survey 835 is drilling at 1,200 feet in its No. 4 Bruni in that survey. O. W. Killam set casing in his No. 2 Bruni in the north half of Survey 835.

Mirando Field

In the older part of the Mirando Field, next north of the Bruni tracts and Edgington tracts of the Aviator Field, Johnson-Shankle who completed a good well a week ago, in Block 22 of Survey 606 of the Garcia land, is moving to the location for No. 2 in the same block, 150 feet from the north and west lines. Crown Central which started a deep test with big rig and derrick on its No. 10 Garcia in Block 56 of Survey 606 is standing at 1,680 feet and has made four more locations in that territory, No. 11 Garcia being in Block 27 of Survey 606 and 150 feet from the north and west lines; No. 12 in Block 21 of the same survey, 150 feet from the north and east lines; No. 13 in Block 27, located 150 feet from the north and east lines, and No. 14 in Block 28 of Survey 606, located 150 feet from the north and east lines. J. K. Hughes Development Co. has made a location for its No. 10 V. L. Puig of the Las Albercas Grant 150 feet from the north and west lines.

Carolina-Texas Field

Carolina-Texas Field, 10 miles north of the Mirando proven field in Webb County, was last week treated as wildcat since it has but one producing oil well in a proven gas field. It should probably be treated as proven so far as the close in wells are concerned though the trend of the field awaits the drilling of a number of wells at some distance from the Associated-Carson No. 2 "A" Webster which is the discovery well. By the time this is being read Associated-Carson will have one and Associated itself will have one well close to the 2,600-foot sand from which the discovery well is producing, if not on it. The Associated well is a west offset, practically, being very little north of due west of the well and of the Associated-Carson well is in the northeast corner of the 20 acres of which the discovery well is in the northwest corner. There is room for one location between them. The Associated offset on the west and the Associated-Carson offset on the east are the farthest advanced and, barring accidents, will be the first to reach the sand. The discovery well now on a ⅝-inch choke increased its flow to 420 bbls. in 24 hours and is free from sand or water and is justifying all hopes of a good well.

The Texas Company is well advanced on an offset due north of the discovery well and is offsetting the Associated-Carson well in the northeast corner of the 20 acres on the north and Associated-Carson No. 1 "A" on the east and is pretty well advanced on both tests. Magnolia is waiting for water on a northwest diagonal offset to the discovery well, the Magnolia well being a north offset to the Associated's No. 4 which offsets the dis-

(Continued on Page 69)

WILDCAT IN McMULLEN COUNTY CORES SAND SATURATED WITH OIL

By B. D. Stevenson
Staff Correspondent, Southwest Texas Fields

SAN ANTONIO, Tex., Aug. 2.—Eugene Sights in the wildcat on the Franklin ranch, a few miles north of Tilden, in McMullen County, late last week cored an oil sand saturated with oil and had oil an inch deep on the slushpit. Total depth is 2,230 feet and 6⅝-inch casing will be set at 2,220 feet for a test. The well has been showing gas for some time and had a showing of oil that was thought sufficient for a commercial well at less depth. Underreaming at 1,650 feet was interrupted to get a core without success until Friday. It is pure wildcat, being many miles from any proven production, the nearest being the little Callihan Field in the eastern part of the county. Since the well was started the first of the year the Westmoreland Oil Co. has been organized by those interested in the well, which did not, however, affect the ownership. Casing will be set early this week and the well will be allowed to set at least eight days after the casing is cemented.

While there are many other interesting wildcat tests going on in many sections of southwest Texas at this time there is nothing this week that gives evidence of early turning into an oil well. There are a number, however, that are being watched very closely since they are liable to develop interesting situations. They are scattered from Milam County on the north to Rio Grande City on the south, a distance of over 300 miles.

Cole Petroleum Co.'s No. 10 "B" Benavides, in Block 5 of Section 3, eastern Webb County, 2 miles northwest of the nearest gas production in the Cole Field, is down 2,000 feet. It is the third attempt of the company on that 40-acre tract. No. 10 had a showing of oil but drilled too deep and was unable to shut off salt water. No. 10 "A", at 2,635 feet, lost a bit in the hole just as it was coming to the depth where production was anticipated. No. 10 "B" is 125 feet southwest of No. "A" and within another week should be down to the horizon where the showing was had. The well is about 2 miles due north of where Cole first drilled several years ago and got quite a gas well. The Mirando territory is probably the most interesting wildcat territory in southwest Texas due to frequent new discoveries that have resulted in one most important extension to the Mirando Field and the opening of four new pools or producing spots. Hence operators are alert and watching every well that has a ghost of a chance. Cole's No. 10 "B" is one of the most interesting.

Another well that is interesting but which has been attracting very little attention is George M. Ball's No. 1 Roach, on Survey 463, 2½ miles to the east of the Cole gas field and in Duval County. At 2,560 feet it had a showing of oil. Casing is being set and a test will be made this week. Survey 463 is an

(Continued on Page 100)

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Union of California Gets One at Fort Collins. Tow Creek Well of The Texas Company Increases. Pilot Butte Test

By Frank B. Taylor
Staff Correspondent, Rocky Mountain Area

CASPER, Wyo., July 31.—Casper and the Salt Creek Field was in gala attire for the past two days on account of the visit of the governors from many states to this city and Salt Creek. Besides the visiting governors, the officials of the Midwest Refining Co. selected this week-end to visit the Salt Creek Field. The Midwest party was made up of T. A. Dines, chairman of the board, President John D. Clark; H. G. Naylor, Myron K. Blackmer and H. C. Bretschneider, vice presidents; F. D. Anderson, general counsel, and J. A. Carroll, auditor. At Casper the Midwest officials were joined by the Casper officials and an inspection of the field was made. The trip was made to inspect the aftermath of the flood damage at Salt Creek. The field men have cleared up the wreckage and all the wells are producing as usual.

The Ohio Oil Co. has started the laying of a 4-inch gas line from the Oregon Basin to Cody, in Park County, Wyoming. This line will serve the city of Cody with natural gas from the Ohio Oil Co.'s well in the Oregon Basin.

Last year the Ohio Oil Co. drilled a test in the Oregon Basin and found about 20,000,000 feet of gas at 1,800 feet. Later the well showed considerable water and it was thought inadvisable to start serving gas from the well until some idea of the amount of water could be had. The company had secured a franchise from Cody to supply gas to that city and if the water flow had not interfered the line would have been laid last summer.

A test of the well has reassured the Ohio's officials and the line is expected to be completed about the middle of September and the gas will then be sent to the city mains. At present Cody uses coal and wood or kerosene for its domestic fuel. The Ohio Oil Co. is also preparing to drill other wells in the Oregon Basin and increase the gas supply. If the field proves large, the gas can also be utilized by the company for its gas line running from Byron and Elk Basin to Billings, Mont.

The new line will be 4 inch pipe and 15 miles long. The Ohio Oil Co. has already purchased a lot in the business district for offices.

Pilot Butte Well

The Pilot Butte Oil & Gas Co.'s well in the Pilot Butte Field, Fremont County, Wyoming, is attracting much attention. This test is expected to bring in a commercial oil well in the deeper formations and the hole is at 1,800 feet, with the Muddy sand expected at about 2,300 feet. The well found two showings of oil, one at 580 and the other at 760 feet, and these showings are evidently from the same shale fault that furnishes the oil for the producing wells of Pilot Butte Field. The Pilot Butte structure is one that appears to warrant deep drilling and the Pilot Butte Oil & Gas Co. is located near the axis and in such a position as to warrant the expectations of production in the regular sands.

Colorado Operations

The most important completion of the past week in Colorado was that of the Union Oil Co. in the Bubbles Lake well, in the Fort Collins Field, Section 7-8-68. This well found the pay at 4,588 feet and is making 400 bbls. daily. The sand was quite hard and it is considered the well will do better with a shot.

The Bubbles Lake well is an inside location and does not extend the production area of the field. It is now conceded by oil men in general that the Union Oil Co. of California controls all of the main productive areas in the Fort Collins and the Wellington Domes, the two structures that make up the Fort Collins Field.

The Tow Creek Field, over on the western slope of the Continental Divide, is coming in for considerable attention since The Texas Company found the last shale producer there. The Texas Company is now preparing to develop the shale oil as a regular field and let the deep sands take care of themselves until the shale oil plays out. The shale oil is a high-grade crude that is coming from about 2,500 feet deep and the size of the production from the two wells drilled appears to warrant further investigation. The last well started off at about 100 bbls. per day and has gradually increased its production until its output at present is around 400 bbls.

Fort Collins Field is now about 1,500 bbls. over that of Moffat in daily oil production and the Moffat wells do not seem to hold up their production as well as Fort Collins. This makes the Fort Collins Field the premier field of Colorado at present and Moffat Field takes second place after being at the top of the list for several years.

The street cars of Denver city, operated with electric power, having discontinued service on Eighteenth Street, one of the city's main thoroughfares, a gasoline operated bus line immediately started service on this street, giving the public free service. It is the intention of the bus company to ask the city for a charter to operate its buses over the city streets and charge a straight 5-cent fare. The street cars charge 8 cents.

Salt Creek Completions

The Midwest Refining Co. completed 15 new producers in Salt Creek the past week through the subsidiary companies. The Midwest Oil Co. brought in a producer good for 453 bbls. on Section 2 39-79 in the first sand at 1,258 feet. The same firm also completed a shale well in Section 23-40-79 at 2,245 feet.

The Midwest Oil Co. and the Wyoming Associated Oil Co, drilling jointly, completed a producer of small size in Section 25-40-79 at 1,700 feet. In the same section the same firms completed a nominal producer of 15 bbls. at 1,795 feet. In Section 36-40-79 the same companies have a 40-bbl. well at 1,595 feet and another in the same section at 1,688 feet that will do 10 bbls.

The Midwest Oil Co. also completed a 150 bbl. well in Section 35-40-79 at 1,205 feet, and has a Lakota well drilled to the top of the sand at 2,468 feet that is shut in. In Section 35 40-79, the same firm has a nominal producer at 1,603 feet, and in Section 34-40-79 the same company has a 15-bbl. well at 1,701 feet.

The Salt Creek Consolidated Oil Co. drilled in a small second Wall Creek producer in Section 31-40-78, finding the pay at 2,175 feet, and in Section 34-40-79 the company has a small producer at 1,638 feet. In Section 31 40-79 the same company has a second Wall Creek producer at 2,097 feet.

The Wyoming Oil Fields Co. drilled a Lakota sand well in Section 23-40-79 and shut in at 2,402 feet.

The Wyoming Associated Oil Co. drilled a shale well in Section 1-39-79 that found production at 940 feet and is making 146 bbls. daily.

Interesting Wildcats

The Carter Oil Co. has spudded in on a wildcat location about 40 miles north of Cheyenne, Wyo., on what is termed the Horseshoe Dome. This location surfaces in the lower Tertiary and to reach the Dakota formation at the base of the Cretaceous the drill must pass all through the different Cretaceous strata. Ordinarily this would mean about 10,000 feet, but the upper part of the Cretaceous was eroded off before the Tertiary was laid down at this particular area, so it is expected the Carter well will be able to reach the Dakota at about 5,000 feet. The hole is starting big so there will be plenty of room.

The Fairway Oil Co. has commenced operations northwest of Salt Creek Field and just south of the Billy Creek Field, in Johnson County, Wyo. This well is on what is considered a separate structure south of Billy Creek and the Fairway stockholders hope to find an oil field on their structure.

The Carter Oil Co. is drilling a wildcat on the Nowood Dome, Section 5 48-90, Washakie County, between Worland and the Big Horn Mountains. This location is just over on the west side of the Big Horn Mountains from the Billy Creek Field. It will be interesting if this well finds the sands in the same correlation as the sands at Billy Creek, for it is generally claimed that the oil structures existed before the mountains came up in this region and therefore the structure at Billy Creek, which ends abruptly at the mountains, should have crossed where the range now stands in the prehistoric times.

In the Big Sand Draw, Fremont County, The Texas Company's well that is making a test of the sands below the gas horizon, has reached a depth of 2,950 feet and is expected in another sand at any time.

The Continental Oil Co. is redrilling the old hole on the Geary Dome about 7 miles northwest of the Big Muddy Field. The present outfit is a rotary rig and so far it has cleaned the hole to 3,000 feet. The old hole had been drilled to a depth of 4,897 feet about three years ago.

The Producers & Refiners Corp. drilled the new producer in the Hudson Field in Fremont County deeper and has increased the production somewhat. The hole is now at 1,810 feet.

The Continental Oil Co. completed a shale well in Section 32-40-78 at 1,585 feet in the Salt Creek Field and a 50-bbl. well is the result. In the same field, the E. T. Williams Oil Co. has a well drilling at 1,375 feet and a small shale showing that is doubtful if it will make a commercial producer. Drilling is to be

(Continued on Page 113)

McLEOD WELL IN TURNER VALLEY POTENTIAL 300-BARREL PRODUCER

By Victor Lauriston

CHATHAM, Ont., July 31. — In the Turner Valley Field, southeast of Calgary, McLeod Oil Co.'s No. 2, LSD 16, Section 1-20-3w5, is reported commercially productive at 3,772 feet depth, being 132 feet in the Madison limestone. The well, which came in last week, with a string of tools in the hole, started with a wet gas flow of about 3,000,000 feet a day, increased to approximately 10,500,000 feet, with an incidental light oil or crude naphtha production flowing by heads. A pressure test ran the gauge up to 1,650 pounds rock pressure. The well was connected with the Royalite Oil Co. gasoline absorption plant for a production test. A 10-hour test of the production showed 53 bbls. of high grade gasoline, indicating a potential production of 127 bbls. a day; but this is believed to represent only a proportion of the light oil or naphtha production available when a complete system of pipes and drips has been installed. It is thought when this is provided the well may make around 300 bbls. a day, in addition to the residual gas; which may be increased if the tools can be recovered and the well drilled further into the lime.

McLeod No. 2 got the Madison lime at 3,660 feet and struck the big gas sand 132 feet in the lime; where the Royalite No. 4 got the top of the lime at 3,430 feet and the big sand 310 feet feet in. It is not definitely known whether the McLeod production comes from the identical sand or whether another horizon has proven productive at this point. The gasoline is around 73 degrees, similar to the Royalite production, but, it is claimed, lacks the same pronounced sulphur odor. At last reports the capacity test was being continued, the Royalite Oil Co. giving the McLeod Oil Co. every possible co-operation in handling the situation. Efforts will probably be made to recover the tools at the bottom of McLeod No. 2. The well is apparently similar to the Royalite No. 4 naphtha gusher, which opened the deep field; though the ultimate production may not be as large.

Vulcan Oils, Ltd.'s No. 1, LSD 11, Section 13-20 3w5, is reported to have recovered the lost fishing tool, and is now fishing for the bit lost at 4,980 feet. At this depth the test is approximately 40 feet in the Madison limestone. Great West Oil Co.'s No. 1, southeast quarter of Section 70-20-2w5, is at 3,355 feet and drilling in a very hard formation. It is planned to set the 10-inch casing a little lower, which will be the longest string of 10 inch in the field. The drillers are working with 1,300 feet of open hole, and a gas flow around 500,000 feet a day.

Making New Hole

Illinois-Alberta Oil & Refining Co., LSD 14, Section 12-20 3w5, has finished drilling through the cement at the bottom of the casing and is making new hole below 3,662 feet. At this depth the test is in the top of the Madison limestone. Dalhousie Oil Co.'s No. 1, LSD 4, Section 18-20-2w5, is at 3,546 feet and straightening the hole. Dalhousie No. 3, LSD 10, Section 13-20-3w5, is at 3,345 feet and working on casing. Dalhousie No. 5, LSD 16, Section 30-19 2w5, is at 400 feet and drilling.

Royalite Oil Co.'s No. 5, LSD 13, Section 7 20-2w5, is reported drilling at 3,398 feet. Royalite Oil Co.'s No. 6, LSD 16, Section 31-19-2w5, is at 2,947 feet and drilling.

New Valley Oil Co., LSD 4, Section 6-21-2w5, is drilling at 210 feet and starting double tour. In the southern end of the field, Dutch Canadian Oils, Ltd., has resumed work on the old Record Oil Co. well, LSD 14, Section 4-19 2w5, un-

(Continued on Page 70)

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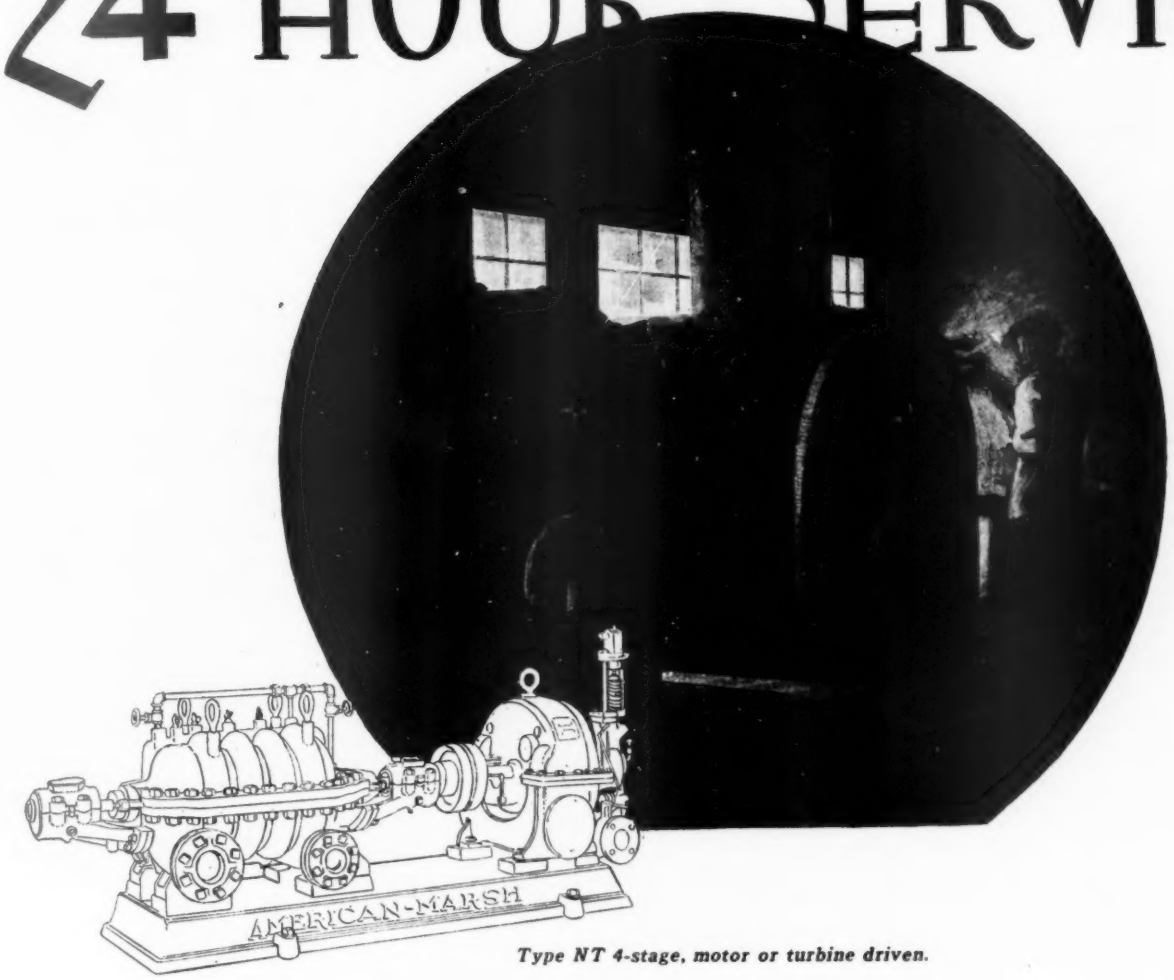

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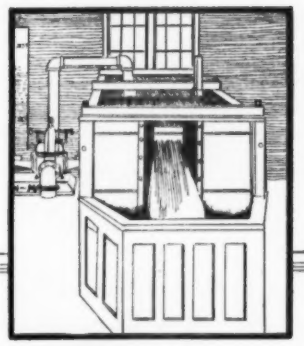

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Grant Parish Wildcat Makes 50 Barrels

Gulf Producer Near Georgetown Attracts Notice. Urania Has 500-Bbl. Completion Near Tullos. Production Falls

By James H. Dameron
Staff Correspondent, Louisiana-Arkansas

SHREVEPORT, La., Aug. 2.—Gulf Refining Co.'s wildcat strike in Grant Parish, No. 1 L. C. Swope, SW NW SW, Section 17-9-1e, was the salient development of the week in the Arkansas-Louisiana district. The well is now flowing 50 bbls. of oil daily from sand at 1,596-1,600 feet. Some sand is coming with the oil and a little fresh water.

The well is in the Georgetown district, 5 miles southwest of Tullos, the juicy spot of the Urania Field. Early in the week the Gulf started bailing the well and fluid filled the hole. The next day it started flowing and Friday its flow had increased to 50 bbls.

Georgetown came into prominence several months ago when Dowling and McCurry's No. 1 Swope, a southwest offset to the Gulf's well, was completed at 1,618 feet making between 5 and 15 bbls. of oil daily and a batch of salt water. The Gulf's well is checking 16 feet higher.

Half a mile to the northwest is a dry hole and the same distance to the south is another duster. A mile south of the Gulf's Swope is another dry hole. One mile to the east two test are drilling for the sand, one being drilled by The Texas Company and the other by Bradley and Cozart.

Since the first oil showing was discovered in that section the Georgetown area has been the scene of fitful excitement. The first showing brought about a scramble for acreage but subsequent tests threw cold water on the area. Now the Gulf's find is arousing a new interest in Georgetown.

Nine Wildcat Failures

While the Gulf was bringing in a wildcat well in Grant Parish nine other wildcats went the route of the vast majority of such tests. Three of the failures were in Grant Parish, three in Winn Parish and the remainder scattered over three other parishes.

In Arkansas two of the outside tests held interest, both in Lafayette County. One was the Arkansas Fuel Oil Co.'s No. 4 Allen, just east of Bradley in the freakish Blossom sand pool opened there by the Arkansas Co. It is shut down waiting for a standard rig. The other is 3 miles to the northeast being drilled on the Gulf's lease which cored salt water when the Blossom was topped.

In Sabine Parish Emlet's deep zone test picked up a sand showing oil at 4,070 feet and casing is being run to test the showing.

In the Haynesville Field Gilliland Oil Co. and Ramsey's deep test, No. D-1 Taylor, Section 14-23-8, which made 4,500,000 feet of gas and sprayed a little salt water from 4,331 feet, was drilled to 4,343 feet. Deeper drilling cut the gas down to 1,000,000 feet and the test was making about 50 bbls. of salt water. Friday night the well was shut in and when opened Saturday morning it was found the gas had been killed. The test is to be deepened. It is the opinion of those following the test that it bridged over during the night.

Urania's 500-Bbl. Well

Brightening Urania was a 500-bbl. well brought in near Tullos. In the territory recently opened 2 miles south of production a dry hole was drilled a quarter of a mile to the east. One good producer was completed in that area and H. L. Hunt is reported to be bringing in another good producer farther north.

Composed of Arkansas, Missouri, Texas and Louisiana capital, the Jena Oil Corp. was organized last week under the laws of Louisiana with $60,000 capital. J. E. Ritchie, Texarkana, is president. The company has about 6,000 acres blocked in La Salle Parish about 7 miles southeast of Jena. Possibly three tests will be drilled on the acreage. The company has started drilling on the first, No. 1 White Sulphur, Section 23-8-4e.

Interesting in Smackover was the completion of a 140-bbl. well by H. L. Hunt in territory he opened several weeks ago extending the Smackover Field. The well was No. 4 Swilley, Section 28-16-16. Other than the Hunt completion Smackover finished another dull week and new production in Lisbon skidded when only four wells were completed in that area.

At the first of the week The Texas Company took over the Crown Central's producing properties in Smackover, Homer and Caddo. Details of the trade were not learned. Crown Central had approximately 500 bbls. production in Smackover, 150 bbls. in Homer and 45 bbls. in Caddo.

In the district 25 of the 43 completions were oil wells with a combined production of 1,616 bbls. Seventeen of the new wells were in Louisiana and their combined production was 1,191 bbls.

Production Declines

A summary of all field operations and comparison with the previous week's summary shows a loss of seven in completions. Thirty wells are waiting for standard rigs, 251 are drilling while 261 totaled last week's summary; 29 rigs are in the field and 64 derrick are up.

Unchecked in its gradual decline production in both states continues to fall. During the past week it went off 1,700 bbls. daily. Louisiana lost the most because of a heavy drop in Urania throwing the State's total production 1,050 bbls. less. Bellevue, Cotton Valley and Red River and DeSoto were the fields showing slight gains while the others lost. Smackover light was the only field in Arkansas showing a gain while all others contributed to the 650-bbl. loss there.

PRODUCTION BY FIELDS

Arkansas	
Smackover heavy	123,185
Smackover light	15,180
El Dorado	7,490
Lisbon	10,285
Nevada	2,165
Stephens	1,800
Total	160,105
Louisiana	
Bellevue	2,335
Caddo light	10,325
Caddo heavy	2,900
Cotton Valley	7,800
De Soto and Red River	3,965
Elm Grove	555
Haynesville	9,740
Homer	5,680
Urania	12,840
Total	56,140
Total both fields	216,245
Total last week	217,945
Difference	1,700

ARKANSAS
Union County

Arkansas' completions went under par during the seven-day period because of the sudden drop in Lisbon completions. Lisbon got four new wells during the week, all small producers. In the high area Atlantic Oil Producing Co.'s No. 7 Goodwin, Section 16-17-16, was finished in sand at 2,134-66 feet pumping 70 bbls. In the north end of the field H. L. Hunt's No. 6 Murphy, Section 4-17-16, was completed in 61 feet of broken sand topped at 2,072 feet for a 50-bbl. pumper. Wingfield and associates' No. 2-B Slaughter, Section 3-17-16, is pumping 35 bbls. at 2,089 to 2,114 feet. To the west Lion Oil & Refining Co.'s No. 5-A Mitchell, Section 17-17-16, is flowing 40 bbls. from sand at 1,129-60 feet.

In the extreme northeast Atlantic's No. 2 Ford, Section 3-17-16, is shut down in broken sand at 2,098 to 2,132 feet and a derrick pattern is on location for No. 3 Ford, CSL NW NW. Atlantic's No. 3 Goodwin, Section 16-17-16, is standing with 1,000 feet of oil in the hole from sand at 2,133-67 feet and waiting for a standard rig. No. 6 Goodwin is a rig. Six-inch was cemented at 2,100 feet at Eason and associates' No. 2 Mooty, Section 22-17-16. Six-inch was cemented at 2,105 feet at Foster & McWilliams' No. 3 Mooty, Section 15-17-16. Gulf's No. 1 L. Parker, Section 21-17-16, is drilling at 800 feet and No. 2 at 560 feet. Gulf's No. 2 Primm, Section 21-17-16, is drilling out the plug at 2,082 feet; No. 3 is drilling at 1,585 feet. Six-inch was cemented at 2,075 feet at Humble's No. 1 Cruse, Section 21-17-16. Six-inch was cemented at 2,085 feet at Humble's No. 7 Goodwin, Section 16-17-16.

Hunt's No. 7 Murphy, NE cor. Section 4-17-16, is a rig. Lion Oil & Refining Co. has seven tests operating on its Mitchell lease in Section 17-17-16. A derrick is going up for No. 6-A, NW cor. SE NE; No. 7-A, drilling at 119 feet; No. 4-A, drilling at 2,079 feet; 6-inch was set at 2,085 feet at No. 18-A and at 2,121 feet at No. 19-A; casing was set at 2,145 feet at No. 1-B; No. 2-B is rigging and the plug is being drilled out at 2,144 feet at No. 2-C Mitchell. Magnolia's No. 1 Halsey has 800 feet of oil in the hole from sand at 2,132-59 feet and is waiting for a standard rig. The plug at 2,082 feet is being drilled out at Magnolia's No. 7 Harrell, Section 4-17-16. Cement at 2,091 feet is being drilled out at Magnolia's No. 1 Slaughter, Section 17-17-16, and No. 2 Slaughter, Section 8-17-16, is drilling at 105 feet.

J. L. Meek's No. 1 Milner, Section 15-17-16, is drilling at 1,230 feet. Ohio's No. 8 Goodwin, Section 21-17-16, drilling at 1,970 feet. Ohio's No. 7 Goodwin has 300 feet of oil in the hole from sand at 2,107-44 feet and waiting for a standard rig and a derrick is up for Ohio's No. 2 Stocks, NW cor. NW SW, Section 21-17-16. J. D. Reynolds' No. 5 Dumas, Section 15-17-16, is a rig. Reynolds & Marr's No. 3 Goodwin, Section 21-17-16, has 300 feet of oil in the hole from broken sand at 2,094 to 2,153 feet and is waiting for a standard rig. Rovenger Oil Corp.'s No. 8 Goodwin, Section 16-17-16, had sand at 2,077 to 2,102 feet, has 400 feet of oil in the hole and is waiting for a standard rig. Rovenger's No. 1 Snyder, NE cor. SW NE, Section 22-17-16, is rigged. Roxana's No. 2 Willett, NW cor. SW NW, Section 3-17-16, is a rig. Six-inch casing was cemented at 2,070 feet at Southern Crude Oil Purchasing Co.'s No. 5 Slaughter, Section 3-17-16. Wingfield and associates' No. 4-B Slaughter, Section 3-17-16, is waiting for cement to set at 2,051 feet and No. 3-B is being bailed to test sand at 2,100-27 feet.

El Dorado Area

In the El Dorado area Grimes & Jones' No. 1 Alphin, Section 6-18-14, was completed at 2,155-84 feet in broken sand

(Continued on Page 76)

TWO-THIRDS MEXICAN COMPLETIONS WERE FAILURES DURING PAST WEEK

By George Blardone
Staff Correspondent, Mexican Fields

TAMPICO, Mexico, July 30.—Fourteen failures and seven producers sums the results of field operations in Mexican pools the past 10 days. The production resulting totals a volume of say 9,740 bbls., all of which is in the northern fields. The south fields scored three failures.

The best well of the past week is Mexican Gulf Oil Co.'s No. 29-A Chapacao, (Corcovado), which came in with an initial production of 5,000 bbls. at 1,950 feet. La Corona Petroleum Co. has two wells in Lot 4 Cacalilao, Nos. 182 and 183. The first came in as the week ended with an initial head of 5,000 bbls., but on exploitation test it showed some water, and is pinched to 1,000 bbls. as a result. No. 183 is good for 2,000 bbls. at the shallow depth of 1,572 feet. La Corona also has a small well in Corcovado, its No. 24. Lot 6, there coming in for a head of 5,000 bbls., but showing water is pinched to 500 bbls. In the Marland sector, Cia. Franco Espanola's No. 58 Limon is good for 1,000 bbls. at 2,090 feet. In Topila, Mexican Oil Co. has around 200 bbls. in its No. 7, Lot 19 Tamboyoche, finished at 2,350 feet. In the Tananturo, old Panuco, Mexican Sinclair Petroleum Corp. has a 40-bbl. producer in its No. 30.

The northern fields failures follow: In Panuco, Cia. Francia Mexico's No. 12 Piedras drilled into salt water at 1,870 feet. La Espuela Oil Co.'s No. 6 Sobrevilla is a dry hole at 2,250 feet. Mexican Sinclair Petroleum Corp.'s Nos. 17-A, Lot 2 Camolote, and 4-B Garruche (Corcovado) are dry at 2,203 and 2,210 feet respectively. Transcontinental Petroleum Co.'s Nos. 2, Lot 15 Tanchicuin and 23 Piazzi, are dry at 2,270 and 1,820 feet respectively; and in Cacalilao, its No. 264, Lot 4, is also dry at 2,300 feet. Up in Ebano, Mexican Petroleum Co.'s No. 56 Chijol, and No. 112 La Dicha are dry at 2,263 and 2,260 feet respectively. In Chapacao (Corcovado) Mexican Gulf Oil Co.'s No. 25-A Chapacao is a salt water well at 2,450 feet. National Lines' No. 34 La Mula, Topila sector, is dry at 2,505 feet.

In the south fields, Huasteca Petroleum Co.'s Nos. 72 and 83 Tierra Blanca are failures at 2,160 and 2,705 feet respectively, the former drilling into salt water and the latter finishing a duster in gray shale. Mexican Eagle Oil Co.'s No. 36 Cerro Veijo, which finished in basalt at 2,510 feet, with a small show is also a failure.

Interest Turns North

The success of Mexican Gulf Oil Co.'s No. 30 Los Esteros, in the canton of Altamira, State of Tamaulipas, north of Tampico, has caused the eyes of major companies and smaller operators to turn to the north. The Gulf Co.'s holdings of the American International Fuel Co.'s immense acreage up there are supplemented by leases acquired from other landowners, hence it is in the most favorable position. Along the Tamesi River, however, are many smaller pieces of acreage blocked up, on which several strings have been operating, some three dry holes resulting thus far. However there were no less than 23 failures—some of them with showings, it is true—drilled in the Los Esteros division before No. 30 came in a good well. The Gulf Co. is offsetting its first well with two other

(Continued on Page 98)

3668 feet of hole with a HAZARD DRILLING LINE —and no cuts

A HAZARD 7/8"x4500 ft. Extra Strong 6x19 Drilling Line on Bell No. 9 of the Ohio Oil Co. in the Lance Creek Field, Wyoming, drilled 3668 feet of hole. Not a foot was cut off the line, except for re-socketing. Moreover, this Line under-reamed every foot of 10", 8" and 6 5/8" casing and carried pipe all the way.

Contractor Bautch says that a Hazard Line is the only one he knows of that will drill a well in Wyoming, all others requiring two or more lines for a single well.

This is the crew that did it:
LEFT TO RIGHT:
T. A. Bautch, *Tool Dresser*
Al. Holton, *Driller*
F. C. Bautch, *Contractor and Driller*
A. Spjut, *Tool Dresser*
(Inset) Walter Davis, *Supt. Ohio Oil Co.*

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Gulf Coast Production Up 32,000 Bbls.

Spindletop Contributes 39,475 bbls. New Flush Output. Deepest Producer at Lockport Makes 900 Bbls. Initial

By P. L. McGreal
Staff Correspondent, Gulf Coast Fields

HOUSTON, Tex., Aug. 2.—The Gulf Coast region made a record this week that has not been equalled since the early boom days and the deep sand activity at Sour Lake and Humble in 1914, 1915 and 1916. A total of 32 wells were completed with 45,780 bbls. new production. Ten of the completions were dry and one salt water hole. The new deep sand section at Spindletop contributed 39,475 bbls. of the new flush output, 11 completions being recorded there alone.

In addition to the new gushers at Spindletop, the deepest producer in the entire Coastal area was completed early in the week in the Lockport district near Lake Charles, Calcasieu Parish, Louisiana. It is the Vacuum-Gulf Co.'s joint No. 1 Friedberg and Wolfe, credited with an initial flow of 900 bbls. at 5,475 feet, having been drilled deeper. It is pointed to as a justification for the campaign of deeper drilling now going on in many of the old pools and indicates the possibilities of such a campaign. The same interests abandoned the deepest drilled hole in the history of Texas there last year at 6,077 feet.

As a result of the flood of new production developed during the week, the estimated gross for the week climbed to 150,775 bbls., or 28,035 bbls. in excess of the estimate for last week. It is now the opinion of many operators that the deep sands at Spindletop will see a peak of 75,000 bbls. within 10 days or two weeks, followed by a rapid decline. The new wells are being drilled close together on the southeast and west sides, which means the sands will be quickly drained and the gas pressure relieved. The deep sand belt skirting the old cap rock section is proving to be much narrower than was expected. In addition some of the deeper holes are commencing to show salt water. There are now 24 producers in the new deep sand section.

Completions there this week include the Yount-Lee Oil Co.'s No. 7 McFadden on the southeast side flowing 8,000 bbls. initial, 23 gravity. The Rio Bravo Oil Co.'s No. 2 Southern Pacific Railroad right of way, flowing 8,000 bbls. initial at 2,900 feet and No. 3 on the right of way flowing 3,000 bbls., 23 gravity, at 2,788 feet. The Gulf Production Co.'s No. 1 Mann flowing 2,000 bbls. at 2,860 feet and No. 2 Mann flowing 7,500 bbls. Same company's No. 2 Weed flowing 1,700 bbls. at 2,860 feet. The Yount-Lee Oil Co.'s No. 1 Trembly came in at 2,400 feet credited with 4,200 bbls. initial output. The Sun Oil Co.'s No. 2 McLean on the west side made 5,000 bbls. initial flow. Same company's No. 1 McLean, which came in during the week of July 10, at 2,875 feet flowing 4,500 bbls. is now flowing 800 bbls., 25 per cent water. The gravity is 23.5 on the McLean lease. Paggi Brothers' No. 1 Gordon, completed last week as a 2,400-bbl. well at 2,975 feet, is now flowing 775 bbls. at 2,400 feet, 22.5 gravity. Porch and Telshaw abandoned No. 5 Trembly at 1,700 feet and the Seven Oil Co. abandoned No. 2 Trembly at 1,250 feet. In the old cap rock district the Unity Oil Co.'s No. 88 McFadden is pumping 75 bbls. at 910 feet.

The Gulf Production Co. is rigging No. 3 Mann. No. 1 Roche drilling at 2,800 feet, No. 2 at 545 feet and No. 3 is rigging. No. 1 Oakwood is at 2,235 feet. No. 2 is below 675 feet with No. 3 rigging. No. 1 Jack-Duff is drilling at 2,670 feet. No. 3-A Weed is at 2,875 feet with a location for No. 4-A weed. The Atlantic Oil Producing Co.'s No. 1 McLean is drilling around 2,876 feet and No. 2 around 3,000 feet, with locations for Nos. 3 and 4. The Sun Oil Co.'s No. 3 McLean is at 2,997 feet. O. Barbee's No. 1 Garrick is shut down at 2,550 feet. Brown and others' No. 1 Williams is also shut down. Locations have been made for Seven Oil Co.'s No. 3 Trembly and Paggi & Co.'s Nos. 2 and 3 Gordon.

The Yount-Lee Oil Co., which discovered the deep sand, is drilling Nos. 8 and 8 McFadden, 6 and 7 Gladys, 1 and 2 feet and 1 Trembly. A derrick is up for No. 3 fee. J. O. Banks has a derrick for No. 1 Stephens and the Turnbow Oil Co. locations for Nos. 1 Banks and 1 Weed.

"The hill," as the Spindletop Pool has been called for years, 3 miles out from Beaumont, is the Mecca for automobilists and traffic between the city and the hill is always congested. The usual collection of shacks that spring up during oil booms have been removed, operators fearing fires.

The following table shows the results of the week's operations at a glance:

District—	Comp.	Prod.	Dry	S.W.	Blg.
Boling	2	600	1	0	0
Batson	1	25	0	0	0
Edgerly	2	125	0	0	0
Goose Creek	0	0	0	0	3
Jennings	3	115	1	0	0
Lockport	1	1,150	0	0	0
Orange	5	4,250	0	0	0
Spindletop	11	39,475	3	0	0
Saratoga	1	40	0	0	0
Vinton	0	0	0	1	2
Wildcats	5	0	5	0	0
Total	32	45,780	10	1	5
Last week	18	11,375	3	0	6

Estimated Gross Production

Compared with last week's estimate Spindletop increased 30,800 bbls.; Lockport, 2,200 bbls.; West Columbia, 100; Boling, 210; Humble 75, and South Liberty 25 bbls. The Big Creek Pool shows a decrease of 1,900 bbls; Goose Creek, 325; Vinton, 100; Hull, 1,225 and Orange 230 bbls. The south Louisiana pools are credited with 15,920 bbls. of the gross total.

The estimate for each district for the week ending July 21 is as follows:

Pool—	Gross Bbls.
Boling	2,610
Batson	1,510
Blue Ridge	1,800
Barber Hill	500
Big Creek	3,600
Dayton	65
Damon Mound	815
Edgerly (La.)	845
Goose Creek	11,175
Humble	4,025
Hull	17,775
High Island	115
Jennings, (La.)	1,300
Lockport (La.)	6,500
Markham	75
Nash Dome	1,400
Orange	9,275
Orchard	245
Pierce Junction	3,200
Piedras Pintas	80
Spindletop	55,000
Saratoga	1,630
Sour Lake	5,140
South Liberty	5,700
Vinton (La.)	7,200
West Columbia	9,050
Welsh-Anse La Bute (La.)	75
Miscellaneous	110
Total	150,775

Southwest Fields

The estimated daily average gross production for the southwest fields for the week is 44,505 bbls. The Mirando district, embracing pools in Webb, Jim Hogg and Zapata Counties and the Cin-Tex section of Duval County, is credited with 14,500 bbls. on a recheck of the producing wells. Some estimates make it as high as 16,000 bbls., but this is thought to be excessive.

The estimated for each field is as follows:

Field—	Gross Bbls.
Luling	22,300
Mirando	14,500
Somerset	2,065
Calliham	120
Rockdale-Minerva	970
Lockhart, (Lytton Springs)	4,550
Total	44,505
Increase for week	4,005
Total for week	195,280
Total last week	163,240
Net increase	32,040

Other Completions

The Orange Pool added a quota of 4,250 bbls. new output to the total. The Brownie Babbittee Oil Co.'s No. 12 McLean is flowing 3,500 bbls. at 3,600 feet. The Gulf Production Co.'s No. 4 Hager, a workover, is making 300 bbls. at 3,450 feet. The following will pump 150 bbls. each: Orange-Petroleum Co.'s No. 3 Winifree, a workover, at 3,550 feet; Texhoma Oil Co.'s No. 6 Chesson, at 3,600 feet and Gulf Production Co.'s No. 11-A Kishi-Lang at 4,650 feet.

Three wells are bailing in the Goose Creek Pool. The Humble Oil & Refining Co.'s No. 68 Smith at 4,950 feet; Gulf Production Co.'s No. 12 Chapman-Bryan at 4,400 feet and Gulf Coast Oil Corp.'s No. 9 Galliard, a workover, at 2,650 feet.

In the deep sand section of the Batson Pool, the Kirby-Pet.-Capitol Oil Co.'s joint No. 5 Hodges is pumping 25 bbls. at 3,950 feet. In the old part of the Saratoga Pool, the Rio Bravo Oil Co.'s No. 5 Cotton is good for 40 bbls. at 1,560 feet.

Weed and Gayle's No. 1 Keller in the cap on the Boling Dome came in making 550 bbls. at 400 feet. These shallow sand wells do not hold up long. Off the dome on the northwest side the Sun Oil Co.'s No. 1 Taylor, a workover, is pumping 50 bbls. at 3,150 feet. The Humble-Gulf Co.'s No. 12 Hawes was abandoned at 2,750 feet.

South Louisiana Pools

In addition to the deep well of the Vacuum-Gulf interests at Lockport their No. 7 Miller will make a pumper at 4,375 feet. No. 11 Miller blew out and flowed at the rate of 3,000 bbls. for several hours before sanding. It is being cleaned out.

In the Vinton Pool, the Vinton Petroleum Co.'s No. 15 Harmony is bailing at 2,310 feet. No. 17 Vincent is a salt water hole at 1,975 feet. The Texas Company's No. 3 Vincent is bailing at 2,300 feet.

The Gulf Refining Co.'s No. 37 Arandalet in the Jennings (Evangeline) Pool is flowing 1,500 bbls., 5 per cent oil, at 1,950 feet. Same company's No. 30 Jennings-Clement is pumping 40 bbls. at 1,950 feet. The Jennings Oil & Gas Co.'s No. 2 Medlenke is dry at 2,540 feet and the

(Continued on Page 104)

NIGGER CREEK PRESENTS PROBLEMS FOR THE PRODUCTION ENGINEER

By Special Correspondent

MEXIA, Tex., July 31.—The fact that the Transcontinental Oil Co.'s No. 1 Cochrum in the Nigger Creek area west of Mexia stopped flowing after a few days of big production, and that the discovery well fell off for a time to a point below 700 bbls. a day, has not discouraged practical oil men. The Transcontinental Oil Co. is rigging up standard tools to go into No. 1 Cochrum to ascertain the cause of its sudden cessation of flow and it will be several days before the fate of the well can be determined.

The Pure Oil Co.'s No. 1 Odell, northeast of the two wells already in, is likely to be the next test of the structure. This well had reached a depth of 2,829 feet Friday. The core barrel was run but no core was obtained.

It will be more than a week before any new wells are in. Moss & Keeling, the Transcontinental Oil Co. and the Pure Oil Co. should have completions in the course of 10 days.

No. 2 Cochrum stopped flowing Tuesday evening. It is not known why. It may have bridged or salt water may have broken in at points somewhat removed from the point where the casing is cemented. There is a salt water sand just above the oil sand. All that separates them is a thin shell. The casing in No. 2 Cochrum was not set on top of the sand, as no secure seat could be found for it, but it was set about 2 feet in the sand and cemented and the cement permitted to set for over a week. The salt water could have broken through the thin shell back of the cementing job and found its way into the oil sand and drowned out the oil. That is, in fact, a theory advanced by an experienced production man familiar with conditions in this part of Texas.

No. 1 Rossen, the discovery well, was producing 1,450 bbls. yesterday, according to the Transcontinental Oil Co. At one time on Friday it was reported to have made 90 bbls. an hour.

Derricks are shooting up along the theoretical fault line for some distance. The Transcontinental Oil Co. is drilling Nos. 1 and 2 Cogdell, Nos. 1, 2, and 3 O'Dell, Nos. 2 and 3 Rossen, Nos. 2-A, 3-A, 4-A and 5-A Rossen, No. 1 Suttle, Nos. 1, 2 and 3 Atkins. The Atlantic Oil Producing Co. is drilling No. 1 A. E. Rossen, Block 14; Bass and others' No. 1 O'Dell; Cranfill & Reynolds, No. 1 O'Dell; Godley Oil & Gas Co. and others, No. 1 Rossen, Block 14; Godley & Co., No. 1 Suttle; J. K. Hughes Development Co., No. 1 Suttle; Moss & Keeling, No. 1 Atkins; Moss & Keeling, No. 1 Rossen, Block 4; Murchison & Fain, Nos. 1 and 2 Rossen, Block 14; Pure Oil Co., Nos. 1 and 2 Atkins; Pure Oil Co., No. 1 Hobbs (a shallow gas test); Pure Oil Co., Nos. 1, 2, 3 and 4 O'Dell; Reiter & Foster, No. 1 Erskine; Shaffer and others, No. 1 Rossen, Block 17; Simms Oil Co., No. 1 Rossen, Block 29; E. L. Smith, No. 1 Rossen, Block 29; Stroube and others, No. 1 Atkins; Stroube and others, No. 1 Suttle; The Texas Company, No. 1 O'Dell.

The events of the past few days have cast a cloud over the Nigger Creek area, but it would be unwise to seriously discount the field. There is a good body of sand present. It is well saturated and the pool should produce a large volume of crude per acre. At this time it appears to be largely an engineering problem. If general conditions are the same as those found in the wells already drilled into the sand, Nigger Creek will be a field where a good casing seat will be absent as a rule and where salt water problems will have to be solved. There is no doubt in the minds of practical producers that the oil is there, and that it may be present west of perhaps others faulted pools, which have already produced over 190,000,000 bbls. of crude in the past few years.

The 39 wells above listed as drilling will tell the story of the field. Until they are completed and the results in them are known it would be best to class Nigger Creek among the important possibilities.

SEISMOGRAPH

To Whom It May Concern

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Marland Revives Hopes of Seal Beach

Northern and Western Parts of Field Look Promising. Huntington Beach Increase Expected. Signal Hill Active

By L. P. Stockman
Staff Correspondent, California Fields

LOS ANGELES, Calif., July 31.—There were several interesting developments in California during the past week, the most important of which was probably the picking up of an oil sand by the Marland at Seal Beach because of the fact that this company may be instrumental in opening up another new field at this point. The Seal Beach area has been persistently wildcatted for the past several years but, nothwithstanding the aggressive work of the Union, Shell, Associated and Marland, the district is still unproven. The Shell was the first of the major companies to enter this immediate area, although several dusters were drilled some distance away several years ago by the Standard, Seal Beach Oil Co. and H. B. Dabney. More than a million dollars have been expended in wildcat work to date but in spite of this large expenditure the sand is just as elusive as ever.

The Shell probably spent more than a half million dollars in testing out the Bixby and Bryant leases and, while one of the wells, No. 1 Bryant, yielded 50 bbls. of oil daily on the beam from 4,620 feet, it was not a commercial producer due to the fact that the output showed an excessive water cut. For several months this well pumped 50 bbls. of oil and 500 bbls. of water daily, the crude being consumed on the lease as boiler fuel. Altogether the Shell drilled four holes on the Bryant lease and one on the Bixby property now held by the Marland. The Hellman lease in this area was long regarded as the cream of the district and it will be recalled that most of the larger companies in the state submitted several tempting offers for the privilege of development. One company, it is reported, offered one-quarter royalty and a cash bonus in excess of $1,000,000 but the Hellman interests finally tied up with the Associated, which concern, it is reported, agreed to drill up the lease and buy the oil at a premium of 10 cents a barrel, the drilling charges being borne by the property owner and deductable from the gross income. The Associated, in compliance with lease requirements, drilled a deep test, No. 1 Hellman, which was carried down and suspended at 5,470 feet because of the unfavorable outlook. Failing to secure production, the company, before starting another deep test, undertook to drill several survey structure holes, three of which have already been completed. The fourth diamond core is down 1,542 feet at the present time.

Showings to Date

The Union was the last company to enter this prospective field, acquiring a lease on the Bryant property north of the Marland. The Union's present wildcat, No. 1 Bryant, is in a brown shale at 4,650 feet, the only showings of date being of a minor character. The Marland tied up the Bixby lease in this field shortly after the Shell quit-claimed it, as a result of the unfavorable outlook due to the drilling of a duster in the extreme southern part of the property. Marland geologists, under the guidance of Roy Collom, former California State Oil and Gas Supervisor, were of the opinion that the productive area was located north of the Shell's No. 1 Bixby and, with this idea in mind, located its first test, No. 1 Bixby, several hundred feet north. The Marland found the same oil sand in this well as that encountered by the Shell to the east and succeeded in getting an initial production of several hundred barrels from 4,834 feet before water trouble developed. The company endeavored to overcome this condition and finding its efforts unavailing, decided to carry the hole down for a deep thorough test. The well was accordingly deepened to 5,465 feet and abandoned at that depth as a duster. The short flush production secured at 4,834 feet, however, proved quite a stimulant and the company very wisely located a second test, No. 2 Bixby, several hundred feet still further north. It is this well which is centering the attention of operators on the possibilities of the Seal Beach area. The most important feature in connection with the company's present test, No. 2 Bixby, is the fact that the sand was encountered approximately 300 feet higher on the structure than previous tests have shown. The company completed drilling on No. 2 Bixby at 4,427 feet and a string of 8¼-inch was run in and landed at about 4,420 feet.

The potentiality of this well is still unknown, of course, and nothing definite will be determined until it is put on a production test, possibly some time during the coming week. The fact remains, however, that the well has logged an oil sand higher up stratigraphically, which tends to confirm the theory that the structure is dipping southward and eastward. This makes the northern and western part of the field look quite promising, although peculiarly, the Union has not yet picked up this showing, notwithstanding the fact that its test is a little more than 200 feet deeper than No. 2 Bixby. It is quite possible, of course, that the Union is on the north flank, in which event its No. 1 Bryant is not yet out of the running. The Standard drilled two deep tests in the extreme western part of the Seal Beach area but it is possible they were located too far away to have any direct bearing on the present situation. It is probable something tangible will develop at Seal Beach within 10 days as a result of further drilling by the Union and a test of the oil sand found by the Marland in No. 2 Bixby. Commercial production is not assured in this area by any means but the outlook is rather promising.

Huntington Beach Revival

Huntington Beach is experiencing a revival of work which may result in considerable drilling later this year and, since the daily field production would naturally reflect this condition, we can anticipate a general increase. Developments during the past week or ten days indicate the possibility of increased drilling in both the northern and southern parts of the field simultaneously. In the southern extension, opened up for work several months ago, the Superior's No. 1 Jones showed an initial production of 50 bbls. a day from 3,170 feet, but, due to the fact that it sanded up a short time after coming in, it has not been determined whether the sand at this depth is commercially productive. It will be recalled that the Wilshire's test about two blocks away showed a similar result, since which time the company has been attempting to locate the point at which the water is entering the hole. In the meantime the company staked a location for another well in Block 122 at Twenty-second and Ocean Street and this test should start downward soon. The Superior seemed to have effected a satisfactory water shut off and for this reason it will be particularly interesting to watch the outcome after the hole has been cleaned out.

Julian's No. 1 Lambert, two or three blocks away from the Superior's well in the southwest extension, seems to be about 100 feet higher on the structure, according to the well logs. This well should encounter the pay next week, unless mechanical trouble develops. The Miley Exploration Co., under the direction of E. J. Miley, is erecting a steel derrick approximately 150 feet north of the Superior's No. 1 Jones, and spud will undoubtedly be made during the next 10 days. Miley has approximately 10 locations in this field, which will be developed as soon as commercial production is assured. The Henderson Petroleum is also contemplating some new work in the extension but will probably hold off for another few weeks. Developments during the past week indicate the possibility of additional work by several operators.

The California Petroleum sprung quite a surprise by bringing in No. 1 Buck doing something like 450 bbls. daily from 4,247 feet. This well, located beyond the heretofore proven limits in the northern part of the field, sanded up about 10 hours after coming in, and for this reason it is problematical whether the well is able to maintain anything like the initial. If the company succeeds in returning it to production as a satisfactory completion, the proven limits will be moved 1 mile northward and another several hundred acres of potential oil land added. There is considerable difference of opinion as to whether No. 1 Buck is an extension or whether it has opened up a new field. Those familiar with conditions prevailing at Huntington Beach, however, classify it as an extension well, notwithstanding that the General Petroleum drilled a dry hole between it and production. It is claimed the General Petroleum picked up this sand in No. 1 Jaggers, the well referred to, but passed it up because of water trouble. The California Petroleum recently acquired this Jaggers lease formerly held by the General Petroleum and will undoubtedly undertake early work. Considerable leasing is being done, most of the acreage changing hands for around $300 an acre cash bonus and a one-fifth royalty. The Standard's No. 31 on Lease A, a new well in the older section, drilled to 3,685 feet and finished with an 8⅝-inch oil string, 515 feet of which was perforated, came in flowing 220 bbls. of clean 26.9 gravity oil daily. The company has one other driller on this lease, No. 32, which is drilling ahead at 2,026 feet. The Sun Oil Co. of California has taken a new lease on life, following the successful completion of its No. 7 a few weeks ago, and has just spudded in No. 8 and started rig construction for No. 9.

Long Beach

Operators in the Long Beach Field continued their policy of listing several new wells each week by bringing in five wells. The Craig-Burns Oil Co.'s Cerritos was the largest producer listed, this well showing an initial of 960 bbls. of clean 22.1 gravity oil after being redrilled and deepened from the upper to

(Continued on Page 66)

IMPORTANT SOUTHERN CALIFORNIA WILDCATS

Company, Well and Location—	S-T-R	Depth	Status
Marland, No. 2 Bixby, Seal Beach	11- 5-12	4,427	oil sand
Union, No. 1 Bryant, Seal Beach	2- 5-12	4,662	br. sh. drilling
Bellflower, No. 1 Blythe, Bellflower	.....	Rig	good area
Marine, No. 1 Strong, Bellflower	24- 3-12	Rig	good area
Feather & Preston, No. 1 Blinn, Clearwater	16- 3-12	Rig	spud soon
Union, No. 1 Howland, El Segundo	24- 2-15	3,900	sd. sh. drilling
Smith Brothers, No. 1 Johnson, Hawthorne	17- 3-14	Rig	spud soon
Associated, No. 1 Cypress, Inglewood	34- 2-14	Rig	spud soon
Johnson, G. W., No. 1 Martin, Manhattan	30- 3-14	5,158	sh. drilling
Julian, No. 1 Trust, Manhattan	19- 3-14	5,138	sh. drilling
Marland, No. 1 Wickham, Newhall	32- 5-17	4,004	abandoning
Milham, No. 2, Del Rey	34- 2-15	5,533	br. sh. drilling
Barnsdall, No. 1 Merlo, Puente	35- 1-11	5,598	gr. sd. drilling
Petroleum Sec., No. 1 Sesnon, San Fernando	14- 2-16	2,520	gr. sd. drilling
Standard, No. 1 University, San Fernando	15- 2-15	3,261	sd. sh. drilling
Standard, No. 1 Austin, Topango	11- 1-17	855	hd. sd. drilling
Union, No. 1 Saugus, Saugus	15- 4-16	3,480	br. sh. drilling
Union, No. 1 Olinda, Orange County	15- 3- 9	5,309	fishing
Union, No. 2 Olinda, Orange County	10- 3- 9	4,285	testing

IMPORTANT NORTHERN CALIFORNIA WILDCATS

Marland, No. 1 Williams, Santa Barbara	.....	4,286	prod. test
Marland, No. 1 Lazard, Kern County	27-26-20	5,250	unfavorable
Schwartz, A. G., Well No. 1, Rosedale	25-29-26	3,780	sd. sh. drilling
Taylor, W. W., Well No. 1, Clovis	5-13-22	820	hd. sd. drilling
Associated, Well No. 1, Huron	20-19-17	2,260	fishing
Fresno United, Well No. 3, Raisin City	23-15-18	3,489	sd. sh. drilling
Bolsa Chica, Well No. 1, Kettleman	30-23-19	2,190	sd. sh. drilling
Marland, No. 1 Elliott, Kettleman	12-22-17	5,570	fishing
Shell, No. 1 Berlywood, Moorpark	.....	4,673	fishing
C. C. M. O., No. 1 Hobson, Ventura County	22- 3-24	5,240	sd. sh. drilling
Milham, No. 1 Sexton, Ventura County	19- 2-22	5,550	hd. sd. drilling
Standard, No. 1 Palmer, Santa Barbara	13- 9-33	850	sd. sh. drilling
Pan American, No. 1 White, Monterey County	27-23-13	1,740	sd. sh. drilling
Pyramid, Well No. 1, Monterey County	26-21- 9	2,320	promising
Shell, No. 1 Murphy, Petaluma	29- 5- 6	1,758	hd. sd. drilling

TANKER SHIPMENTS FROM LOS ANGELES TO ATLANTIC AND GULF COAST PORTS

Commodity—	Total This week	Daily Average	Total Last week	Daily Average	This year To date	Same time Last year
Crude oil	231,277	33,092	400,716	57,245	7,464,261	9,145,669
Fuel and gas oil	233,104	33,301	275,225	39,318	5,415,113	237,873
Gasoline	77,126	11,018	312,077	44,583	3,968,188	4,664,632
Tops	.....	.....	.....	.....	74,619	327,185
Coastwise—						
Crude oil	386,642	55,235	481,235	68,746	13,717,891	18,359,864
Fuel and gas oil	399,925	57,132	328,608	46,944	5,984,079	6,606,462
Gasoline	254,513	36,359	116,777	166,823	4,310,237	2,617,448
Kerosene	.....	.....	.....	.....	166,870	244,136
Tops	79,120	26,373	.....	.....	559,664	128,986
Exports—						
Crude oil	132,858	18,980	268,902	38,415	3,194,502	1,362,115
Fuel and gas oil	420,752	60,108	258,860	36,980	9,681,280	8,554,188
Gasoline	.....	.....	113,794	16,256	3,073,261	2,257,438
Tops	.....	.....	.....	.....	.....	170,407
Kerosene	94,496	13,500	.....	.....	1,211,071	1,259,824
TANKER SHIPMENTS FROM SAN FRANCISCO TO ATLANTIC, GULF COAST PORTS						
Fuel and gas oil	78,296	11,185	.....	.....	729,096	218,414
Gasoline	93,142	13,306	.....	.....	685,236	795,629
Tops	.....	.....	.....	.....	229,775	794,918
Lubricants	58,470	8,353	.....	.....	275,617	235,533
Coastwise—						
Fuel and gas oil	48,567	6,938	48,999	7,000	2,696,111	2,125,351
Gasoline	133,560	19,080	96,632	1,381	2,548,424	1,477,419
Kerosene	20,135	2,877	8,253	1,179	245,046	128,104
Exports—						
Fuel and gas oil	104,405	14,915	.....	.....	1,935,617	1,241,026
Gasoline	.....	.....	.....	.....	863,580	384,387
Kerosene	.....	.....	54,831	7,833	1,252,123	663,465
Lubricants	.....	.....	.....	.....	.....	243,429

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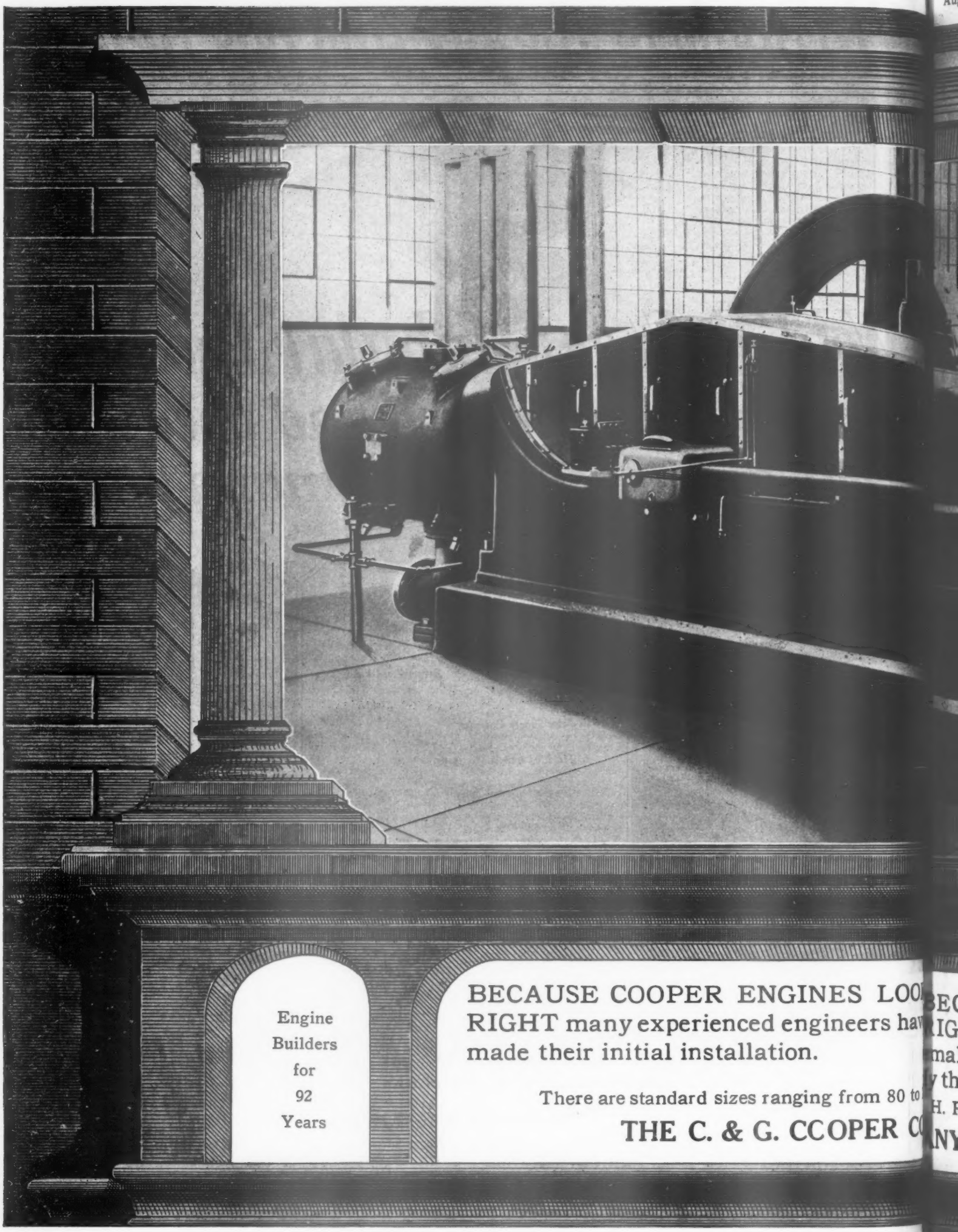
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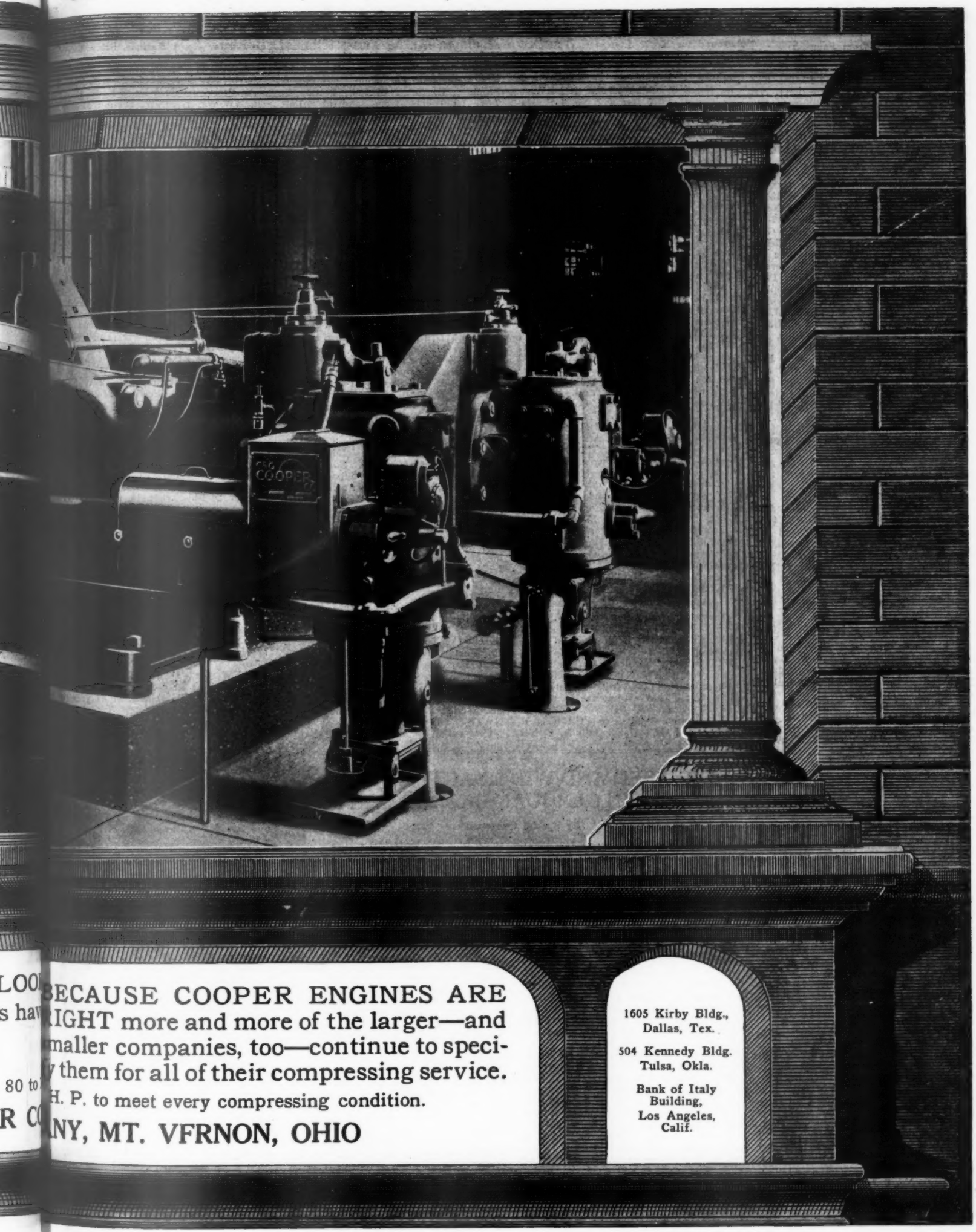

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OKLAHOMA FIELDS

(Continued from Page 35)

15-12e, is spudding. Kirkland & Sons have rig on ground for No. 3 Gibson, SW cor. NW NE, Section 17-15-13e. The Acta Oil Co.'s No. 1 Rentie, CNL NE SE, Section 3-15-14e, is drilling at 300 feet. J. M. Hennessey's No. 6 J. Rowe, CWL SE SW, Section 8-15-14e, spudding. The Texas Company's No. 5 M. Bruner, CWL SW SE, Section 16-15-14e, spudding, and is rigging up for No. 6 Bruner, SE cor. SW SW, Section 16-15-14, and has rig on ground for No. 7 Bruner, SE cor. SE, Section 16-15-14. Jolly & Ogg have machine up for No. 7 Garrett, NE cor. NE, Section 21-15-14e. The Texas Company's No. 14 Garrett, NE NE NW NE, Section 21-15-14e, is drilling at 200 feet. Twin State Oil Co. is rigging up for No. 5 F. B. Severs, NW cor. NW ,Section 22-15-14e. Phillips Petroleum Co. and W. T. Campbell have rig on ground for No. 1 H. Smith, SE SE NW NE, Section 4-14-12e. J. M. Kistler is rigging up for No. 1 P. Boon, SW cor. SE SW, Section 19-12-12e. E. A. Hutchinson's No. 1-A Harris, NE cor. SW SE, Section 1-14-14e, rig. Elm Oil Co.'s No. 7 L. Flint, CSL SW SE, Section 13-14-14e, drilling at 360 feet. J. A. Swindler is rigging up for No. 8 F. M. Lewis, NW cor. SE NE, Section 25-13-11e. H. C. Marcy's No. 3 F. M. Robinson, CWL SW NW, Section 8-13-12e, rig. Cusack and others are rigging up No. 5 Wiley, CWL SW NE, Section 29-13-14e. William Hewitt is rigging up for No. 1 Wilson, NE cor. NW, Section 35-13-14e.

Muskogee County New Work

Culp and others have machine to drill No. 4 J. Vanderslice, SE cor. NW SW, Section 30-15-15e. J. L. Powell has machine in to drill No. 2 L. Anderson, SE cor. SW NE, Section 8-14-15e. C. M. Bradley's No. 1 J. Crittenden, C NW SW, Section 5-14-19e, is drilling at 150 feet.

Okfuskee County Completions

T. T. Blakely's No. 1 J. West, SW cor. NE, Section 1-12-9e, dry and abandoned at 3,799 feet. Champlin Refining Co.'s No. 8 Holmes, SE NE NW, Section 22-11-11e, dry and abandoned at 2,805 feet. J. J. Deaner's No. 3 B. Grayson, SE cor. SW, Section 3-12-11e, is dry and abandoned at 3,555 feet.

Okfuskee County New Work

Josey Oil Co.'s No. 1 Unallotted, SW cor. SE SW, Section 28-12-11e, rig. Atlantic Oil Producing Co.'s No. 1 J. Wind, C SE SW NE, Section 35-11-9e, is spudded. W. L. Umburn has rig up for No. 1 R. M. Holmes, C NW NW SW, Section 36-11-11e. Gypsy Oil Co. is rigging up for No. 1 J. King, C SW SE SE, Section 11-10-8e. Vierson and others have rig up for No. 1-A T. Barnett, C NW NW NE, Section 4-10-11e. Eagle-Picher has moved machine in to drill No. 3 Bird Creek, NW NE, Section 7-10-12e.

Seminole County Completions

Carter Oil Co. has completed No. 1 B. Carter, SW cor. NW NE, Section 24-9-6e, for 120 bbls., sand at 3,928-61 feet. Magnolia Petroleum Co.'s No. 2 Hanning, C NW NE NW, Section 23-8-7e, completed for 9 bbls. in sand at 3,245 feet.

Seminole County New Work

Continental Oil Co. is rigging up No. 9 Pierce, C SE SW SE, Section 33-11-8e, for a shallow sand test. Amerada Petroleum Corp.'s No. 1 Baker, C SW SE NW, Section 28-10-6e, is rigged up. Gypsy Oil Co. is making location for No. 1 Susie Tiger, C SE SE SE, Section 34-10-7e. Sinclair Oil & Gas Co.'s No. 10 Yarbrough, C NE NE NE, Section 4-10-8e, is drilling at 300 feet. Carter Oil Co. is building rig for No. 1 Flora Carter, NW cor. NE SE, Section 23-9-6e. Carter Oil Co. is building rig for No. 1 Joe Carter, NW cor. SW SW, Section 24-9-6e, and has made location for No. 2 Joe Carter, SE cor. SW SW. Gypsy Oil Co.'s No. 2 J. Carter, C SW NE NW, Section 24-9-6e, is spudding. Indian Territory's No. 6 James, C SE SW SE, Section 24-9-6e, is rigging up. Mid-Continent Petroleum Corp.'s No. 2 Tayeche, C NW SE SW, Section 24-9-6e, is rigging up. No. 3 Tayeche, C SW SE SW, a location, and No. 4 Tayeche, C SE SE SW, a rig. Tidal-Osage has rig on the ground for No. 1 J. Carter, C SE NW SW, Section 24-9-6e. Tidal-Osage's No. 2 S. Mahardy, C SE NE NW, Section 24-9-6e, is drilling at 3,715 feet; also its No. 3 S. Mahardy, NW NE SW, is drilling at 1,075 feet and No. 4 S. Mahardy, C SW NE SW, is rigging up. Mid-Kansas Oil Co.'s No. 1 F. Johnson, C NW NW NE, Section 25-9-6e, is rigging up. Tidal-Osage is building rig for No. 1. M. Jones, C NE NE NW, Section 25-9-6e. Gypsy Oil Co.'s No. 1 Fixico, C SW NW NE, Section 26-9-6e, a location, and No. 2 Fixico, C SE NW NE, a location. Independent Oil & Gas Co. and Garland have made locations for their No. 2 Fixico, C SE SW NE, Section 26-9-6e; No. 3, C NE SW NE, and No. 4, C NW SW NE. Indian Territory has rig on ground for No. 1 Bowlegs, C NW NW, SE, Section 26-9-6e, and for No. 2 also, C NE NW SE. Pure Oil Co.'s No. 1 O. D. Strathers, C NE NE SW, Section 26-9-6e, a location. Tidal-Osage is building rig for No. 1 Rockwell, C SE SE NW, Section 26-9-6e, and have rig on ground for its No. 2, C NE SE NW, and is building rig for No. 3, C SE NE NW. J. T. Perker has abandoned location for No. 1 Thomas Sanke, C SW SE SW, Section 27-9-6e. T. B. Slick is building rig for No. 3 H. Cobb, C SW SW SE, Section 7-9-8e. Wynona Oil Co. is building a rig for No. 2 Harjo, C NE NW NE, Section 18-9-8e. Atkins-Newman and others's No. 1 Culver, C NE SE NE, Section 24-9-8e, is spudding. Indian Territory's No. 1 Livingston (formerly reported as L. Fixico farm), C SE SE NW, Section 15-8-6e, is spudding. Indian Territory is building rig for No. 2 Ida, C SE SW NE, Section 15-8-6e. Magnolia's No. 1 Knight, C NE SE NW, Section 28-8-7e, a location. Barnsdall Oil Corp.s' No. 1 Hutulke, C SE NW SE, Section 22-7-6e, a cellar. Indian Territory's No. 1 A. Marshall, C NW NW SW, Section 32-7-7e, a location.

Hughes County Completions

Minnehoma Oil Co.'s No. 11 N. Cain, C SW NW NE, Section 1-9-9e, an old well drilled deeper, is plugged and abandoned at 3,478 feet, hole full of water. Mid-Continent Petroleum Corp.'s No. 9 Alexander, C SW NW NW, Section 3-9-9e, pumping 80 bbls. from sand at 3,798-3,804 feet. They are moving in rig for No. 13 Alexander, SE cor. NW NW NW, Section 3-9-9e, to drill deeper. Ramsey Oil Co.'s No. 2 Salinda, C NE NW SE, Section 31-8-8e, an old well drilled deeper, completed in Hunton lime at 4,191-93 feet, for 2,469 bbls. Dixie Oil Co.'s No. 2 Garner, C NW NW NE, Section 5-7-8e, has a fishing job at 4,055 feet. Magnolia Petroleum Co.'s No. 8 Skinner, SE cor. NW NW, Section 5-7-8e, 1,150 bbls. from sand at 4,180-90 feet. McCollough & McMahon's No. Ferguson, NW cor. NE SE, Section 5-7-8e, 598 bbls. from sand at 4,218-30 feet. Magnolia's No. 1 Turner, C NW NE NE, Section 8-7-8e, dry and abandoned at 4,393 feet.

Hughes County New Work

Magnolia Petroleum Co.'s No. 1 Garliner, C NW NE SE, Section 27-8-8e, a location. Producers & Refiners Corp.'s No. 9 Amos, C NE SW SE, Section 31-8-8e, is drilling at 1,400 feet. Dixie Oil Co.'s No. 1 E. Bruner, C SW SW SW, Section 17-8-10e, a location. Dixie Oil Co. is building rig for No. 2-A Garner, C NW NW NE, Section 5-7-8e. Ramsey's No. 1-A Jacobs, C NE NW NE, Section 14-7-8e, is drilling at 100 feet.

Caddo County New Work

English Drilling Co. is setting 10-inch casing at 112 feet in No. 1 Pruitt, SW SE SE, Section 22-6-10w. English Drill-Co. has rig on ground for No. 1 Gregory, SW SE NE SW, Section 31-6-9w. Gorton Trust Co.'s No. 1 Marchand, C SW NW, Section 2-5-9w, a location. Briscoe & Hall's No. 1 B. Lackey, NW Cor. SW NW, Section 11-5-9w, drilling at 50 feet.

Grady County Completions

Skelly Oil Co.'s No. 4 Edmundson, NW cor. NW, Section 23-5-8w, is shut in for 7,500,000 feet of gas at 2,380 feet. Harris and others' No. 2 Moss, SE cor. SW NE, Section 11-4-8w, is shut in for 4,500,000 feet of gas at 2,145 feet. Carter Oil Co.'s No. 1 L. F. Whem, NW cor. NE, Section 34-3-5w, had a good showing of oil and 16,000,000 feet of gas at 1,474 feet and is running 5⅜-inch casing.

Grady County New Work

Stogner's No. 3 Smith, C SW NE, Section 23-5-8w, drilling at 151 feet. Magnolia is building rig for No. 2 E. Smith, C SE NE, Section 11-4-8w. Carter Oil Co. has rig on ground for No. 2 Mar-Horton, NE cor. SW, Section 8-3-5w. Magnolia Petroleum Co.'s No. 1 Russell, NW cor. SW SW, Section 21-3-5w, a location. Carter is building a rig for No. 3 Irvin Polson, SE cor. SW SE, Section 27-3-5w, also for its No. 4, NW cor. SE SW.

Carter Oil Co.'s No. 2 White Eagle, SE cor. SW NW, Section 27-3-5w, is rigging up. Briscoe & Hall have rig on ground for No. 1 Nations, SE cor. NW SE, Section 34-3-5w. Carter has a rig on ground for its No. 1 Eva Nations, NE cor. SW SW, Section 34-3-5w. Magnolia Petroleum Co.'s No. 2 E. H. Mitchell, NW cor. NE NW, Section 34-3-5w, a location; also has made location for its No. 3 Mitchell, SE cor. NE NW. Todd and others have rig on ground for No. 2 Nations, NE cor. SE SW, Section 34-3-5w.

Garvin County Completions

Mid-Continent Petroleum Corp.'s No. 1 Fleaming, NE cor. SW, Section 32-3-3e, dry and abandoned at 2,000 feet; no sands.

Garvin County New Work

Sinclair is rigging up rotary tools for No. 1 S. McCurtain, SE cor. NW, Section 23-4-1e. Guy Fisher's No. 1 Paxton, NE SW, Section 25-3-1w, is rigging up. Magnolia Petroleum Co.'s No. 1 Vaughn, NW cor. SW NW, Section 12-13-1e, is rigging up.

Comanche County Completions

Wirt Franklin's No. 1 To-Ni-Vitty, NW cor. NW, Section 31-2-9w, dry and abandoned at 2,200 feet.

Comanche County New Work

Westheimer & Daube's No. 2 Watson, NE cor. SE NE, Section 24-2-10w, is rigging up. Hambro Oil and others' No. 1 Ritchie, NW cor. SW, Section 19-2-9w, drilling at 500 feet.

Stephens County Completions

Carter Oil Co.'s No. 2 J. A. Green, NE cor. NW SE, Section 2-2-5w, dry and abandoned at 2,459 feet. Ellis Drilling Co.'s No. 4 McFatridge, NE cor. SW SE, Section 24-1-9w, shut in for 6,500,000 feet of gas at 2,297 feet.

Stephens County New Work

Cardial Oil Co. is rigging up its No. 4 Cox, NE cor. SW NW, Section 24-2-9w.

Southern Oklahoma

Jefferson County Completions

Humble Oil & Refining Co.'s No. 1 J. O. James, NE cor. SE NW, Section 18-7-5w, dry and abandoned at 2,270 feet. Gypsy Oil Co.'s No. 26 O. W. Seay, SW cor. NE, Section 33-6-5w, completed for 72 bbls. oil and 25 bbls. water, sand at 1,315-25 feet. Its No. 28 Seay, NE cor. SW NW, for 42 bbls. oil and 35 bbls. water, sand at 1,365-80 feet, and No. 29 Seay, C SW NE, 80 bbls. of 34 gravity oil, sand at 1,342-49 feet. Twin State Oil Co.'s No. 1 J. J. Hardin, SW cor. SW, Section 13-4-4w, dry and abandoned at 3,502 feet.

Jefferson County New Work

Brown and others' No. 7 O. W. Seay, NW cor. NE NW, Section 33-6-5w, is drilling at 1,120 feet. Gypsy Oil Co.'s No. 30 O. W. Seay, SW cor. SE NW, Section 33-6-5w, drilling at 1,225 feet, and its No. 31 Seay, CSL SW NE, is drilling at 38 feet. Stacy & Burress' No. 2 Dobbins, C NW SW, Section 28-3-6w, a location.

Love County Completions

Schemerhorn and others' No. 1 J. Corlock, NE cor. NW NW, Section 2-6-1e, dry and abandoned at 1,270 feet; no sands.

Love County New Work

Humble Oil & Refining Co.'s No. 1 Anderson, C NE SW, Section 2-6-1e, is rigging up.

Carter County Completions

Amerada Petroleum Corp.'s No. 28 M. Baptiste, CNL NW SE, Section 20-5-1e, sand at 1,395-1,405 feet, 25 bbls. oil, drilled to a total depth of 1,807 feet, plugged back to 1,405 feet and completed. Amerada Petroleum Corp.'s No. 24 S. Baptiste, CEL NW SE, Section 20-5-1e, sand at 1,395-1,414 feet, 45 bbls. oil; drilled to 1,548 feet, plugged back to 1,414 feet and completed. Magnolia Petroleum Co.'s No. 12 Shallenberger, SW cor. SE, Section 16-4-2w, sand at 2,275-80 feet, 75 bbls. of 33 gravity oil, total depth 2,318 feet. Merrick and others' No. 7 Gates, NW cor. SE NE, Section 8-3-2w, sand at 2,658-77 feet and 2,711-26 feet, 60 bbls. 32 gravity oil, total depth 2,832 feet. E. D. Shell's No. 1 W. & D., SW cor. NE, Section 26-3-2w, dry and abandoned at 3,512 feet. Wirt Franklin and Prairie Oil & Gas

(Continued on Page 113)

INCREASED AND WIDER ACTIVITY IN SAN JUAN BASIN TERRITORY

By Special Correspondent

FARMINGTON, N. Mex., July 31.—Increased activity all over the San Juan Basin has been evident through the month of July with the close showing interest over a wide field of action. The splendid showing of high grade oil in the Continental-Santa Fe No. 18 which has tested well over 1,000 bbls. daily capacity has had much to do with this, and this has been accelerated by the knowledge that better shipping facilities are soon to be provided, first by the pipeline to Gallup which will become operative on August 6, and the announcement that the Denver & Rio Grande Western Railroad has put on additional tank cars and in a short time will have doubled its carrying capacity of last year. Well No. 17 of these companies is also beginning to reach a depth where it is arousing a great deal of interest for it cannot be a great distance to the Pennsylvania formations which is its objective. If this well demonstrates production from the Shinarump sands the same as was found in Boundary Butte and also in the Pennsylvania formations, and this oil is of a lower gravity than that of the upper sands it will result in the increasing of refinery facilities in the San Juan Basin.

The Continental-Santa Fe companies, operating on the Rattlesnake structure 30 miles west of Farmington, Section 2-29-19, drilling No. 17, have reached a depth of 3,100 feet, and are drilling in what is known geologically as the Red Bed formation. They are using 8-inch casing. No. 19 has been located and will be drilled by a rig to the Dakota sands. It was spudded in this week.

Table Mesa Structure

The Continental Oil Co., operating on the Table Mesa structure, 25 miles southwest of Farmington, Section 3-27-17, drilling in the new hole for No. 8, has reached a depth of 650 feet. Its No. 9 on this structure has reached a depth of 650 feet and ran 6⅝-inch casing at that depth and has again resumed drilling, having succeeded in shutting off the water.

The Southwestern Development Co., drilling on the Atteberry deeded tract, 6 miles northeast of Aztec, Section 24-31-11, has reached a depth of 530 feet and are again drilling after a few days' delay due to engine trouble. C. S. Ringle is doing the drilling under contract.

The Ross-Bloomfield Royalty Co., operating in the Bloomfield district, 10 miles east of Farmington, Section 11-29-11, after recovering tools found the cable defective and a new one was ordered. It arrived and was installed the latter part of last week and drilling was resumed at a depth of 2,125 feet. It is

(Continued on Page 94)

Speaking of The Halliburton Organization

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HALLIBURTON
OIL WELL CEMENTING CO.
Duncan, Oklahoma

Tennessee Wildcat Makes 100 Bbls.

Opens New Area Near Celina, Clay County. More Completions in Kentucky-Tennessee Than for Many Months

By Whit
Staff Correspondent, Kentucky-Tennessee

LEXINGTON, Ky., Aug. 2—The feature completion south of the Ohio River during the week was the bringing in of a wildcat about 4 miles south of Celina, in Clay County, Tennessee, on the Langford farm, that produced better than 100 bbls. initial from a comparatively shallow depth and which opens up a new area for development work.

In the Kentucky end of the field two 30-bbl. wells were drilled in the South Weir Field of Johnson-Magoffin Counties in defined territory, while in the Glasgow Field of Barren County, the Lecta Pool was extended a short distance by a 30-bbl. well on the Dean farm. Other completions over the Blue Grass State were rather small producers with a sprinkling of dusters and gas wells.

More completions were reported from the Kentucky-Tennessee Fields during the week than any previous period for many months, although the July figures show a heavy falling off in both new completions and initial production. This was brought about by a scarcity of water for drilling purposes in many sections of the state. None of the large companies is pushing operations, but taking things easy feeling their way along in hopes of striking some productive pool like that in the Sinking Creek district of Lee County some years ago. The steadiness of the price of crude is an incentive for more active field work. There is a slight increase in new work under way, but not sufficient to attract attention. Wildcatting is being done in some quarters while in others work is confined to defined territory.

Week's Work

A summary of the week's work in the Kentucky-Tennessee fields shows 46 completions, 36 producers with an initial output of 389 bbls., 8 dry holes and 2 gas wells. Compared with the previous week, there were 17 more completions, 13 more producing wells, 221 bbls. more production and 2 more gas wells. The wells were distributed by counties and districts as follows:

County—	Comp.	Wells	Prod.	Dry	Gas
Johnson-Magoffin	8	8	133	0	0
Barren	7	5	43	2	0
Allen	6	6	23	0	0
Estill	5	3	30	2	0
Lawrence-Johnson	4	4	22	0	0
Owensboro district	3	3	18	0	0
Wayne	3	1	1	2	0
Simpson	2	2	8	0	0
Floyd-Knott	2	0	0	1	1
Powell	1	1	5	0	0
Warren	1	1	3	0	0
Lee-Owsley	1	1	3	0	0
Green	1	0	0	0	1
Morgan	1	0	0	1	0
Kentucky	45	35	289	8	2
Tennessee	1	1	100	0	0
Total	46	36	389	8	2
Previous week	29	23	168	6	0
Difference	17	13	221	2	2

Tennessee Well

The new pool discovered near Celina, in Clay County, Tennessee, will eventually bring about a more active drilling campaign when a market for the crude is made, as there is no pipeline in that part of the county to take care of the production at this time, outside of the Stoll Oil & Refining Co.'s line in the Tinsley's Bottom Field, but that does not run anywhere near the new production nor the Clark Pool, which has close to 3,500 bbls. in storage on the leases.

The new find was made by John H. McClurkin and others on the Barlow Langford farm, on the west fork of Mill Creek, about 4 miles south of Celina, in Clay County. The pay sand was topped at a depth of 393 feet and went into 28 feet of sand to a total depth of 421 feet, or 106 feet below the Pencil Cave formation. The well is estimated all the way from 100 to 200 bbls., the oil reported a 43 gravity.

Mr. McClurkin is a veteran oil operator and reported to have drilled 409 wells in Kentucky. Being an engineer as well as operator, he takes delight in locating structures, and testing them out with the drill. He located the structure on which the large oil pool is producing in the Peterman Bend, about 1 mile east of Celina on the Obey River. This pool now has seven producing wells with an estimated production of possibly 500 bbls.

Eastern Division

Exceptionally fine wells are being developed in the Weir Field in the extreme eastern art of Kentucky, adjacent to the Big Sandy Valley, one of the most interesting and scenic countries to be found. In the South Weir Field of Johnson-Magoffin Countines, in District 31, the Bed Rock Petroleum Co.'s No. 23 on the J. H. Arnett farm is a 30-bbl. initial producer. Oliver Jenkins has one of the same size in his No. 8 on the Saylor heirs farm. The Elkhorn Coal Co. and Model Oil Co.'s No. 3 and 4 on the Jess M. Adams No. 2 farm are 15-bbl. pumpers, while the Burning Fork Oil Syndicate has a 15-bbl. producer in a second venture on the R. L. Salyer No. 2 farm, same area. Oliver Jenkins is drilling No. 1 on the Boyd Bailey farm, a short distance in advance of production.

In District 25, same field, the Atlantic Oil Producing Co. has a 10-bbl. well in its No. 21 on the Gordon Blanton farm. The Cumberland Petroleum Co. is drilling No. 42 on the L. C. Bailey farm, same district. In District 29, Hudson & Collin's No. 10 Oscar Wheeler farm, is a 3-bbl. pumper, while R. G. Gillespie estate has a 15-bbl. well in No. 3 on the Yearns Hale farm, and drilling No. 4. The New Domain Oil & Gas Co. is drilling No. 14 on the John H. Gardner farm. In District 27, S. J. Patrick is drilling a test on the Sam Williams farm.

North Weir Field

In the North Weir Field of Lawrence-Johnson Counties, in District 22, Garrison & Townsend's No. 7 L. M. Hay farm, produced 6 bbls. and their No. 10 L. T. Sparks farm, 3 bbls. The Swiss Oil Corp. is drilling No. 13 on the Caney Sparks farm. In District 22-A the same company is drilling No. 22 C. K. Dobyne No. 1 farm, and No. 14 on the M. E. Ferguson farm, as well as No. 32 on the Sanford Lyon farm.

In District 32, the Swiss Oil Corp., has an 8-bbl. well at No. 31 on the Mrs. Proctor Sparks farm. The Wheeler-Watkins Oil & Gas Co.'s No. 2 Esta Walters farm is a 5-bbl. producer. In District 33, the Swiss Oil Corp. is drilling No. 21 J. M. Fyffe farm and No. 20 on the George Evans farm.

Estill County

The old Irvine Field of Estill County is getting some fair producers of late, especially in District 8, where the Superior Oil Corp. brought in Nos. 13 and 14 Simp Horn farm, for 10 bbls. each. No. 3, same farm, was dry and Nos. 12, 15 and 16 are drilling. The Reno Oil Co.'s No. 7 S. M. Maple farm is a 10-bbl. producer. Same company is drilling No. 8 on the Oscar Tipton heirs farm, and the Wood Oil Co. is drilling No. 10 William Neal farm.

In District 7, R. Denton and others drilled a dry hole in No. 11 D. N. Witt farm. The Mt. Springs Oil Co. is drilling No. 14 John Bill Rogers farm and No. 3 Malissa Rogers farm. C. B. Howell, trustee, is drilling No. 4 C. B. Howell farm.

Other Wells

In District 2, Wayne County, the Vulcan Oil Co.'s No. 18 on the T. T. Davis farm is a 1-bbl. producer. The Superior Oil Corp. is drilling No. 13 James Dabney farm. In District 3, D. C. Adkins' No. 5 Burnett heirs is a duster, and Bell & Back are drilling No. 13 Alfred Cooper farm. In District 13, W. L. Souther has a dry hole in a second test on the Nancy L. Jones heirs farm, and No. 3 is drilling. Bert F. Edward and others are drilling No. 2 M. James Carter farm.

In District 16, Lee-Owsley Counties, the Superior Oil Corp has a 3-bbl. well at No. 91 on the Hall-Burke farm. In District 36, C. B. Gross, trustee, is drilling No. 2 Thomas Foreman farm, and the Henry Oil Co. is drilling a test on the Deans heirs farm.

In District 15, Powell County, W. O. Dunham's No. 5 John A. Rogers farm is good for 5 bbls.

In Floyd-Knott Counties, District 21, the New Domain Oil & Gas Co. drilled a duster at No. 5 on the A. J. Allen farm, in the Beaver Creek Field, and the Midas Oil Co. has a good gas well at No. 4 on the T. G. Martin farm, same field.

In District 6, Morgan County, W. B. Sandifer, trustee, drilled a rank duster in a test on the Lennox Lumber Co.'s land.

Western Division

A revival of operations is noticeable in the producing areas in Barren County and the Owensboro district of Hancock, Ohio and Daviess Counties, while Allen and Warren show slight improvement. There is not the hustle in the Warren and Allen Counties as there were a few years ago, although there may be new and prolific pools developed. Barren County is being more thoroughly tested than any, and at the close of July was credited with 44 strings of tools working, and the Owensboro district had 31, which are by far the two busiest areas in the state.

Barren County

The best well for the week in the Glasgow Field of Barren County was an advance test to the Lecta Pool, made by Baird & McCaigney on the Dean farm, which showed an initial production of 30 bbls. While not far from the discovery well of the Esslinger Oil Co., on the C. B. Jones farm, it makes an extension worth while. The Esslinger Oil Co.'s No. 8 C. B. Jones farm is good for 5 bbls. This same company drilled a wildcat well on the Walker farm, along the Jimtown Road, but got nothing but hole, which indicates that no paying production exists there, otherwise it would have been found by this company, which is very lucky in opening new producing areas.

In the Knob Road district, Wiggins & Gillespie were treated to a duster in No. 3 on the Harrison farm. No. 2 proved a light gas producer. No. 4, same farm, is drilling. The Star Oil & Gas Co. is drilling Nos. 9 and 10, Richardson farm.

In the Emery-Moore Pool, Philip Kopel's second test on the Wilson farm is a 5-bbl. producer, and No. 3, same farm, is delayed by a fishing job. Houchins Leasehold Co. is drilling No. 16 Mayfield farm, and Fred C. Moore is doing the same at his No. 13 Howard farm.

In the Gorby Pool, J. W. Porter and others' No. 19 McGlochlin farm is good for about 2 bbls., with No. 20 starting up. W. A. Alexander's No. 3 on the Furlong lease is a 1-bbl. well. Houchins Leasehold is drilling No. 1 M. S. Chamberlain farm, and J. J. Sayer is doing likewise with No. 4 Hatfield farm.

In the Hall Baker Pool, the Wood Oil Co. is drilling No. 7 on the Redman farm. This well is in the extension of the pool. Same company has been delayed by a fish-

(Continued on Page 82)

MORE ACTIVE DRILLING CAMPAIGN EXPECTED IN CENTRAL WEST

By Whit
Staff Correspondent, Central West Fields

LIMA, Ohio, July 31—The Central West fields listed a few very good producers during the week which is encouraging to the trade and may bring about a more active drilling campaign.

The Lima Field's feature during the week was the completion of a 75-bbl. well on the Elizabeth Arthur farm, in the Roundhead Field, in McDonel Township, Hardin County; the bringing in of a 50-bbl. natural producer on the L. Whitace farm, near Cygnet, in Bloom Township, Wood County, being No. 33 on this lease, and on an adjoining lease, the same firm hit a 25-bbl. producer deep down in the Trenton at No. 33 on the L. S. Whitacre farm.

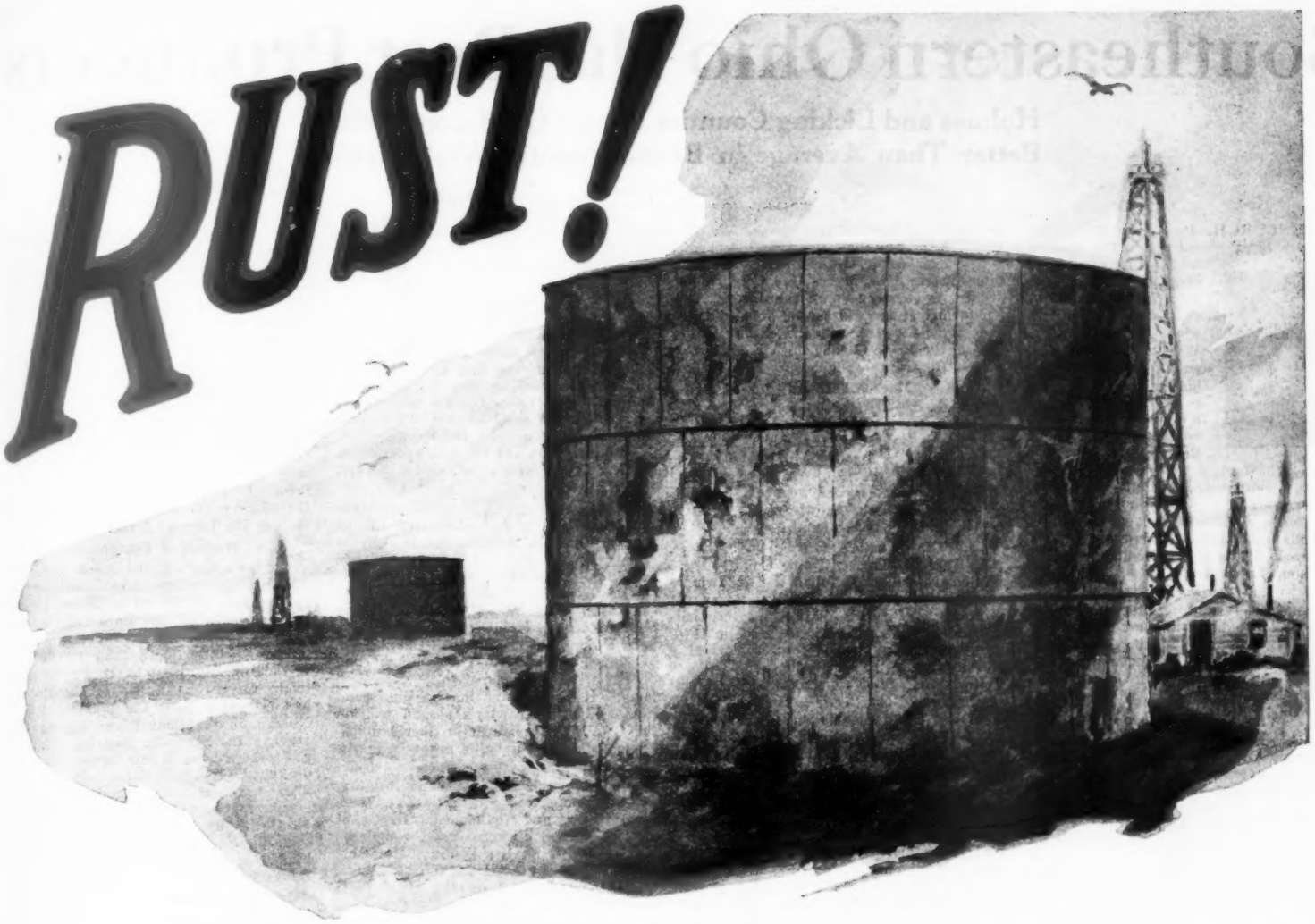
The bringing in of a 20-bbl. pumper in No. 28 on the Cal Perdue farm, in Salamonie Township, Huntington County, Indiana, shows that the Trenton rock still contains a commercial amount of crude to drill for as it is the first completion there for a number of years.

The Wabash County area furnished the thrills for the Illinois Field, by the bringing in of some excellent producers in the Allendale area. No. 8 Mack Madden farm, showed 150 bbls.; No. 6 Kogan heirs' farm, 200 bbls., and No. 3 Collison heirs' farm, 100 bbls.

Lima Field

The old Lima Field of northwestern Ohio is holding up its development far above expectations and some very good producers are being found within defined limits as well as on the outer edges. There is tendency among many of the operators to drill deeper in the Trenton rock for production, as back in the latter nineties and early 1900; many wells that had penetrated the producing sand no deeper than from the top of the sand to 50 feet in had been abandoned and little drilling done on the abandoned leases. This is now the territory that interests them, for they realize there are at least three or four pays from the cap rock above the Trenton to the bottom of the sand and chances will be taken on the deeper pays in preference to the more shallow. A sample of this has just been brought to light in the old Wood County Field, where Maxwell & Harkness drilled No. 33 on the L. S. Whitacre farm, and in the southwest corner of the lease in Section 6, Bloom Township, right at the back door of the old oil hamlet of Cygnet. Top of sand was found at 1,120 feet, being on the "Sucker-Rod Belt" and was drilled 355 feet in the sand to a total depth of 1,475 feet, the well pro-

(Continued on Page 84)



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CONTINENTAL

Southeastern Ohio Has Best Producers

Holmes and Licking Counties Report Good Completions. Better Than Average in Boone County, West Virginia

By D. S. Wakenight
Staff Correspondent, Eastern Fields

PITTSBURGH, Pa., Aug. 2.—Fewer wells are being completed in the eastern fields. In a number of districts, development work is slowing down and very little test work is under way. Within the past few weeks some of the larger companies have surrendered quite a number of leases, rather than drill at the present price of crude. The fact is well established that operators cannot drill except in the very shallow territory when the market is low. More attention is given to drilling old wells to the lower sands than starting new work. This is true in particular of Harrison, Lewis and Monongalia Counties.

In the deep sand territory in southeastern Ohio a large amount of the new work is of the experimental kind, drilling or starting tests on farms to see if they are productive and if so hold back development work until it will be profitable to drill.

Best Producers for Week

There were not many wells completed above the average size. The Big Injun sand development in Henry district, Clay County, is still the most active of any in West Virginia. The average size of the wells when completed in this district has been about 25 bbls.

In Sherman district, Boone County, the Pure Oil Co. completed Nos. 226 and 227 and got two fair producers in the Berea grit. They are good for 45 and 25 bbls., respectively. Boone County has more work at present than at any time since the first of the year. In the completions of the week there were gassers and dry holes.

The deep sand territory in southeastern Ohio had but two fair completions. The better of the two is the East Ohio Oil Co.'s No. 5 on the David R. Anderson farm, located in Lot 24, Hardy Township, Holmes County. The well produced 110 bbls. the first 24 hours.

Good Well for Berea Grit

In Lot 24, Newton Township, Licking County, Ohio, the Ohio Fuel Supply Co. got a producer that placed 45 bbls. to its credit, at No. 4 on the Ellen E. Forry farm, the first 24 hours after completed and shot in the Berea grit.

Morris Township, Greene County, is the only section in the southwest Pennsylvania fields that is completing good producers. In this township the production is greater than all others combined in Greene, Washington, Allegheny and Beaver. In Washington, Allegheny and Beaver Counties there are but 8 wells drilling in the three counties against 31 in Greene County. Conditions are more favorable in Greene than any other county. If a well proves a failure in some of the upper formations there is still a chance for a gasser in some on the lower sands.

West Virginia

In the Big Injun sand development in Henry district, Clay County, the South Penn Oil Co. has completed in the Big Injun sand No. 28 on the O. D. Stockly farm. It is showing for a 75-bbl. producer and is located some distance west of production, showing an extension of the producing area of the field.

Wetzel County

In Center district, Wetzel County, the Hope Construction & Refining Co. has completed in the Gordon sand its test on the Alonzo Jackson farm. It is not better than a 2-bbl. pumper. In the same district the Carnegie Natural Gas Co. drilled deeper its test on the W. M. Wade farm and has the same kind of a producer in the Gordon sand. In the same district, the Myers Gas Co. drilled deeper its second test on the Joseph Allen farm. It is good for 20 bbls. a day. The Hope Construction & Refining Co.'s test on the Isaac Carney farm is a gasser in the Big Injun sand.

Marshall County

In Liberty district, Marshall County, the Manufacturers Light & Heat Co.'s second test on the J. H. and Lucy Teagarden farm is a gasser in the Big Injun sand. In the Cameron district, the same company's second test on the S. D. and O. McConaughey farm is a fair gasser in the Gordon sand.

Roane County

In Walton district, Roane County, the United Fuel Gas Co. has a Big Injun sand gasser at a test on the Rosanna McCrosky farm. In Walton district, the Elkins Oil & Gas Co. has a gasser in the same formation at No. 4 on the J. M. Keene farm.

In McClelland district, Doddridge County, the Norbell Oil & Gas Co.'s No. 4 on the J. R. Roberts farm is a gasser in the Big Injun sand. In McElroy district, Tyler County, the American Oil Development Co.'s No. 14 on the Stephen Pitts farm is showing for a light pumper in the Big Injun sand.

One mile northwest of the Stump Oil & Gas Co.'s No. 1 on the Looney farm, in Gary district, Roane County, the Elkins Oil & Gas Co. has completed in the Big Injun sand No. 4 on the J. M. Keener farm. It is a gasser good for 2,000,000 feet. In Union district, Tyler County, the American Oil Development Co. has a good gasser in the salt sand at a test on the M. Cornell farm.

Boone County

In Sherman district, Boone County, the Pure Oil Co. completed No. 226 on the Williams Coal Co. tract good for 45 bbls. a day in the Berea grit. No. 227 on the same tract has been completed and good for 25 bbls. a day.

In Grant district, Ritchie County, Mellon Brothers have completed a test on the W. B. Phillips farm. It is a duster in the Berea grit. In Banks district, Upshur County, the Union Gas Co. has completed in the Maxon sand a test on the C. S. Heavner farm. It is a gasser. In Washington district, the Edge'l Oil & Gas Co. has the rig completed for a test on the C. Willfong farm. In Meade district, the Hughes Oil & Gas Co. has a rig up for a test on the J. L. Williams farm.

In McClelland district, Doddridge County, the Carnegie Natural Gas Co.'s No. 4 on the Ruth Shrader farm is a light gasser in the Maxon sand. On the West Virginia tract, Grant district, Ritchie County, Burk Brothers have a light pumper in the Big Injun sand at No. 22. In McKim district, Pleasants County, G. W. Vance has a 3-bbl. pumper in the Keener sand at No. 12 on the Adam Ward farm. In Jefferson district, the Walnut Run Oil Co. has a duster in the Big Injun sand at a test on the W. L. Treadway farm.

In Walker district, Wood County, the Pleasant Hill Oil Co. completed in the Maxon sand its test on the D. Snyder farm good for about 6 bbls. a day. In the Plum Run Field, Williams district, O. E. Grow has completed in the first Cow Run sand No. 8 on the Timothy McAtee farm. It is a 5-bbl. pumper.

In Union district, Marshall County, the Wasmuth & Callahan Oil Co. has completed a test on the George Rogerson farm. It is a duster in the Big Injun sand. Martin Crowley's second test on the G. W. Cooper farm in Sheridan district, Calhoun County, is a gasser in the Big Injun sand.

In McKim district, Pleasants County, O. C. Cunningham's test on the Lee Nellis farm is dry and abandoned. In Grant district, George Pickens & Co. completed Nos. 1 and 2 on the William Hammett farm. They are good for 5 and 4 bbls. respectively. No. 3 on the same farm has been drilled down from the Cow Run to the Keener sand and good for 12 bbls. a day.

Deeper Duster in Monongalia County

In Battelle district, Monogalia County, the Pittsburgh & West Virginia Gas Co. has drilled its test on the Clark Tennant farm through the Bayard sand and dry. In the same district, the Philadelphia Oil Co.'s old No. 4 on the Jonathan Shuman farm, an old well drilled down to the Bayard sand is a fair gasser in the lower formation. In Cass district, the Union Utilities Co. has a duster in the Big Injun sand at a test on John Bartley farm. In Skin Creek district, Lewis County, the Carnegie Natural Gas Co.'s second test on the Georgia Wells farm is a gasser in the Gantz sand.

Drilling Test Wells

In McClelland district, Doddridge County, the Manufacturers Light & Heat Co. has started to drill a test on the F. A. Smith farm. In Center district, Gilmer County, the Hope Natural Gas Co. is rigging up on the R. M. Marshall farm. In Smithfield district, Roane County, the United Fuel Gas Co. has started to drill on the J. B. Vineyard farm. In Geary district, the same company has started to drill on the S. R. Tawney farm and building a rig on the Elmus Miller farm. In Union district, Marshall County, the Spider Oil Co. is rigging up on the Anna Jockum farm. In Proctor district, Wetzel County, the Proctor Oil & Gas Co. is due in the Big Injun sand at a test on the Jackson O'Neal farm. In Union district, Ritchie County, the Auburn Oil Co. is starting a second test on the Lawson farm.

Week-End Completions

At the close of the week the West Virginia fields completed nothing but gassers and all located in Boone County. In Scott district, the Pure Oil Co. completed a test on the E. Wilson farm. It is not good for more than 125,000 feet in the Big Injun sand. In Peytonia district, the Owens Bottle & Machine Co. has a gasser good for 250,000 feet at No. 29 on the Coal River Mining Co.'s tract. In Sherman district, Halstead and others have a fair gasser at a test on the J. Meadows farm. In the same district, the Hickman Producing Co. has a gasser good for 250,000 feet at No. 2 on the J. and W. Coon farm. In the same district, Ira G. Sayer got the same kind of a gasser at a test on the D. B. Banks farm.

In the Big Run Pool, Williams district, Wood County, West Virginia, the Hoaglan Oil Co. completed through the second Cow Run sand a test on the T. M. Redfox farm. It is a duster. In the same locality, the Henderson Oil Co. has a very light pumper in the first Cow Run sand at No. 12 on the Drian heirs' farm.

Dusters in Boone County

In Sherman district, Boone County, the Pure Oil Co.'s No. 10 on the Federal Coal Co.'s tract is a duster. In the same district, the Owens Bottle & Machine Co. has a duster at No. 9 on the Britton Coal & Land Co.'s tract. The Pure Oil Co.'s second test on the Jacob D. Coon farm is a gasser good for 1,419,000 feet. All of these wells are located in Sherman district.

In Grant district, Ritchie County, Burke Brothers completed in the light oil sand No. 22 on the West Virginia tract good for 3 bbls. a day. One mile west of Petroleum, J. W. Roberts and others are building the rig for a test on the John Hickman heirs' farm. In Mannington district, Marion County, the Clifton Oil & Gas Co. has started to drill another test on the Frank Snyder farm.

The South Penn Oil Co. has completed in the Big Injun sand No. 27 on the O. D. Stockly farm and good for 60 bbls. a day. In this district, there are 25 rigs up and wells drilling, with the South Penn Oil the most active.

In Jefferson district, Kanawha County, the Tampico Oil & Gas Co. has completed No. 8 on the S. M. Pike heirs' farm. It is dry and abandoned. In Skin Creek district, Lewis County, Smith & Co.'s test on the S. E. Smith farm is a duster in the Gantz sand. In Mannington district, Marion County, the Carnegie Natural Gas Co.'s test on the S. C. Thomas farm is a gasser in the Gordon sand.

Braxton County

After a dull period of more than a year Braxton County, West Virginia, is again coming to the front with some new work. In Birch district, the Ohio Fuel Gas Co.

(Continued on Page 86)

FIFTEENTH PRODUCER AT SAGINAW; SEVERAL WELLS NEAR COMPLETION

By Whit

SAGINAW, Mich., Aug. 1.—The fifteenth producer was added to the Saginaw Field when the Saginaw Prospecting Co.'s No. 1 on the Martin Hanson farm, on the Hermansau Road, filled up with 500 feet of fluid after penetrating the Berea sand, which was topped at 1,817 feet and went 10 feet in the sand and allowed to stand over night. This well is in the immediate vicinity of the wells on the Ulrich and Palvas farms, and does not extend the producing limits. What it will make remains to be seen when put on the pump, although it showed equally as good as other wells in the vicinity.

Several wells are due for completion within the coming 10 days and among them are some on the outer edges that may mean much for the field, if they develop the crude.

Two oil companies have been granted permission by the Saginaw Council to cross streets with pipelines to convey their production to loading racks along the Pere Marquette Railroad. The Valley Oil & Gas Co. wants to lay a pipeline across Oakley Street and to the north end of the street, and the Superior Oil Co. wants to cross Weiss Street. Permission was granted both companies, the work to be done to the satisfaction of the commissioners of public works.

Two new wells have started spudding since the last report. The Bliss Petroleum Co. started drilling No. 2 on the Ulrich farm, Section 14, Saginaw Township, and Myron E. Lee started his well on the Conrad Brechtelsbauer farm on the Shattuck Road.

XUM

28 Here they are.

Definite Reasons

why the new Bessemer Oil Field Engine and Clutch is the finest unit for Oil Country Service

OIL men are universally hailing the new Bessemer Oil Field Engine as the greatest improvement in Oil Field power equipment in the last decade. There are twenty-eight convincing reasons why the New Bessemer Oil Field Engine equipped with the Bessemer Clutch is by far the greatest value in an Oil Field Engine unit.

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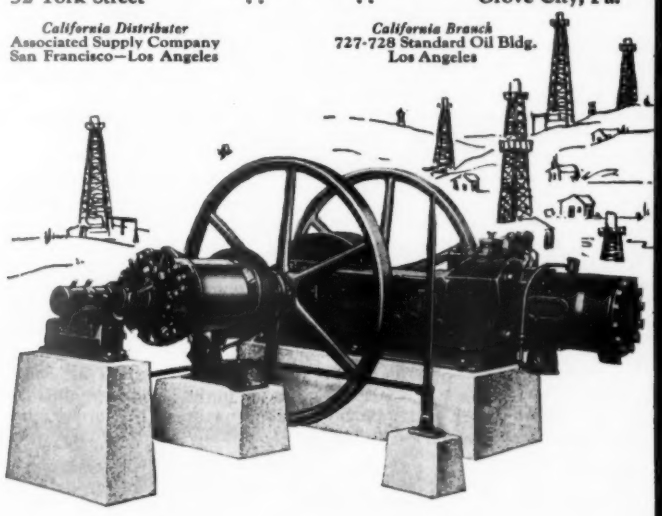

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1. Entirely enclosed bed plate.
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4. Efficient Bessemer governor.
5. Cleanout type cylinder head. Entire front of cylinder head removable, exposing water jacket.
6. Jump spark ignition.
7. Easy to clean water jacket. An easily removed plate on either side of cylinder permits quick access to water jacket space.
8. 6-inch exhaust on 30 H. P. and 35 H. P. engines.
9. Outside bolting-cylinder readily removed.
10. Bored crosshead with adjustable shoes.
11. Large, quickly removed side plates give easy access to adjustable crosshead.
12. Splash lubrication to crank, crosshead and main bearings.
13. Counterweight on crankshaft, giving perfect balance on crank.
14. Adjustable and removable main bearings.

THE CLUTCH

15. Steel flange.
16. Asbestos lined brake band.
17. Steel spur gears, machine cut.
18. Over twice engine speed in reverse.
19. Forged shifting lever.
20. Special steel alloy shaft.
21. Chain oiler with reservoir in base.
22. Wedge adjustment of bearing.
23. Shifting yoke made of cast steel, sides babbitted for thrust.
24. Split hub for forward drive.
25. Asbestos composition friction shoes.
26. Bronze bushings in pulley.
27. Gears run in oil bath.
28. Removable lever.

BESSEMER

MEN KNOWN IN OILDOM

John R. Manion

John R. Manion, president of the Sinclair Pipe Line Company, is one of the outstanding authorities on pipeline problems. This eminence is the result of his long experience in the pipeline branch of the petroleum industry.

Mr. Manion was born at McClintockville, Pa., in 1875, and his oil field career began with the discovery of the field at McDonald, Pa., when he entered the service of the Southwestern Pennsylvania Pipe Line Company. He remained with this firm for two years, and then moved to the newer fields of Ohio in the service of the Buckeye Pipe Line Company.

After two years in the Wood County, Ohio territory, he returned to Bradford, Pa. to work for the National Transit Company as gauger, engineer and in the construction department. For five years, he remained in the various Pennsylvania fields.

In 1904, he responded to the call of the new Mid-Continent fields and was made district foreman of the Prairie Pipe Line Company at Bartlesville, Okla. In this capacity he saw service at Cleveland, and Tulsa, Okla., and was promoted to division superintendent with headquarters at Independence, Kans. In 1914, he became assistant general superintendent of the Prairie Pipe Line Company, and was located at Tulsa.

In 1916, when the Sinclair interests purchased the pipeline properties of the Cudahy and Milliken companies, Mr. Manion left the Prairie, after 12 years' service to become general manager of the Sinclair-Cudahy Pipe Line Company. Under his supervision, the pipeline facilities of this corporation expanded to the present status of the Sinclair Pipe Line Company.

In recognition of his ability to form and operate a competent organization he was elected president of the Sinclair Pipe Line Company in 1920.

PERSONAL PARAGRAPHS

G. W. Earnshaw, patent attorney of Tulsa, Okla., is visiting his associated office in Washington, D. C.

* * *

John E. Neelly, oil producer of Tulsa, Okla., has returned from a trip through the east Texas fields.

* * *

Ray Stebbins, of the Stebbins Oil & Gasoline Company of Tulsa, Okla., is spending some time in Texas.

* * *

F. W. Dye, president of the Western Supply Company of Tulsa, Okla., has gone to Minnesota, for the summer months.

* * *

J. O. Buchta, of the Bartlesville Supply Company of St. Louis, Mo., is making a trip through the Mid-Continent Field.

* * *

J. S. Hasson, general superintendent of the Ohio Oil Company's Louisiana-Arkansas operations, is in east Texas on a company mission.

* * *

Edgar McDonald, of St. Thomas, Ont., has left for Negritos, Peru, to join the office staff of the International Petroleum Company.

* * *

Lew D. Hilton, sales manager of the Regan Sales Company, is making a tour of the Mid-Continent area in the interests of his firm.

* * *

Frank S. Quinn, scout for the McCulloch Oil Company of Okmulgee, Okla., is spending his vacation at his former home in Boston, Mass.

* * *

W. R. Thawley, in charge of the scouting department of the Gypsy Oil Company, is making a one-month motor tour of the eastern States.

* * *

W. E. Tracy, sales manager of the Sinclair Oil & Gas Company's Dallas, Tex., division, was in Shreveport, La., last week on company business.

* * *

B. F. Bridges, Jr., head of the Gypsy Oil Company land department, is spending his vacation in Colorado, where he has motored with his family.

* * *

D. S. Brooks, president of the Root Refineries, Inc., Shreveport, La., has returned to his desk following an extended business visit in Pennsylvania.

* * *

W. T. Christman, superintendent of the Shreveport Producing & Refining Corporation, refinery at Shreveport, La., is in Dallas, Tex., on a business trip.

* * *

O. B. Riddle, Parkersburg Rig & Reel Company, specialty man, arrived in Shreveport, La., from Tulsa, Okla., last week from which office he has been transferred.

* * *

Charles E. Hewitt, in charge of the Mid-Continent Petroleum Corporation at Okmulgee, Okla., is taking advantage of his vacation to visit the old home town, Bradford, Pa.

* * *

W. B. Fulton, in charge of the Standard Oil Company of Louisiana engineering department, has returned to his headquarters in Shreveport, La., after a two weeks' vacation.

* * *

H. M. Arthur, general superintendent of the Shreveport-El Dorado Pipe Line Company, Shreveport, La., is making a tour of inspection over the company's Arkansas lines.

* * *

William White has returned to Marthaville, Ont., from Lagunitos, Peru, where he has been working for the International Petroleum Company. He will spend three months in Canada.

* * *

Frank P. Book and a party of friends are touring the Montana oil fields. Mr. Book is a prominent hotel man of Detroit, Mich., and is interested in the Lewistown Refining Company, at Lewistown, Mont., and in the Cat Creek and Sunburst fields of that State.

* * *

Frank Stevens, well known as a driller in the Irma-Wainwright Field, Alberta, was married at Edmonton recently, to Miss Patsy Fieldhouse, daughter of Mr. and Mrs. H. V. Fieldhouse of Wainwright.

* * *

Walter Garvey has resigned as general manager of the George W. Tubbs Oil Company of Grand Rapids, Mich. The resignation is effective immediately but no announcement was made as to Mr. Garvey's plans.

* * *

J. K. Kerr, vice president of the Ohio Oil Company, in charge of the Louisiana-Arkansas division, arrived in Shreveport, La., last week from his headquarters in Marshall, Ill., for an inspection of the Ohio Oil Company's southern properties.

* * *

J. J. Moroney, president of the North Baltimore Oil & Gas Association of Okmulgee, Okla., is spending some time in Hawaii, after a tour of the Pacific Coast. In Hawaii, he will be the guest of his son, Lieut. William J. Moroney, of Schofield Barracks.

* * *

Charles J. Murray has recently resigned from the staff of The Linde Air Products Company, to become associated with the Oklahoma Contracting Company. He is now organizing a new division of that concern to engage exclusively in oxweld pipeline construction.

* * *

Dan Mahoney has joined the Sinclair Crude Oil Purchasing Company scouting force, and will be located at Ardmore, Okla. He scouted that territory at one time for the Skelly Oil Company, and more recently has been in the Carter Oil Company accounting department.

* * *

Geologist C. T. Lupton is engaged in looking over some new territory in Montana. Mr. Lupton is well known through his writings on geological matters for bulletins of the Geological Survey, and also through being the first geologist to announce the probable value of the area that is now the Cat Creek Field.

* * *

Representatives of Marland Oil Company have arrived at Winnipeg, Manitoba, to plan a survey of Hudson's Bay Company's property. They have just completed an initial tour of the western Canadian fields. Included in the Marland party are Doctor Van de Gracht, vice president, his assistant C. G. Willis, Glen M. Ruby, geologist in charge of Canadian surveys, and M. G. Gulley, special representative of E. W. Marland.

* * *

Glenn Condon, former managing editor of the Tulsa Daily World, has been appointed director of public relations of the Skelly Oil Company, with headquarters in Tulsa. The creation of the public relations department is in line with the Skelly Oil Company's policy of gradual expansion in accordance with the most modern methods of large industrial concerns. Mr. Condon returned recently from New York where he spent six years in newspaper and publicity business.

* * *

H. L. Pratt, president of the Standard Oil Company of New York, and Lionel Barneson, president of the General Petroleum Corporation of California, have inspected the big plant of the Magnolia Petroleum Company at Beaumont, Tex. They were guests of E. E. Plumly, manager and Ralph Kinsloe, assnstant manager of the refinery. Mr. Pratt and his associates continued their trip to the Pacific Coast. The Standard Oil Company of New York recently took over the Magnolia Petroleum Company and the General Petroleum Corporation.

* * *

R. R. Templeton, division superintendent, the Orange County district, California, of the Union Oil Company has resigned to accept a technical post with the Dutch-Shell interests. He will be stationed at The Hague. A. H. Brown will serve as superintendent of drilling and F. W. Lake in charge of production, reporting to Frank F. Hill, manager of field operations. Mr. Brown for two years has been assistant to the superintendent of field operations in Orange County. Mr. Lake was co-author with R. W. Phelps of the technical book entitled "Petroleum Engineering."

* * *

Theodore Johnson, assistant to George H. Baird, engineer of the natural gas division, Empire Companies, has resigned to accept a position as assistant natural gas engineer at the United States Bureau of Mines. In his new work Mr. Johnson will devote his attention to natural gas research work and a part of it at least to the program of the Natural Gas Association of America in the study and development of a standard pipeline flow formula. Mr. Johnson went to the Empire Companies in 1924 as a junior engineer, just after graduation from Montana State University.

* * *

Mrs. Phoebe Rideout, who controls the Yuba Oil Refinery at Nacogdoches, Tex., is displaying remarkable energy for a woman of 80 years. She acquired control of the small plant four years ago. It operates on crude from the old Nacogdoches Field, a shallow sand district, opened in 1883. The sands are around 280 feet and the output is very limited now. The Yuba refinery specializes in lubricating grades. The aged woman has removed from her home in San Francisco to Nacogdoches and has taken over the active management of the plant, reporting at the office every morning at 9 o'clock and remaining until afternoon.

MANY

HUGHES TOOL JOINTS

PUT IN SERVICE

5 YEARS AGO

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Good Joints

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Branch Plants
LOS ANGELES, CALIF.
OKLAHOMA CITY, OKLA.

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HOUSTON, TEXAS

Export Office
NEW YORK CITY, N.Y.

Natural Gas Developments

NATURAL GAS IN ONTARIO SHOWS CONTINUANCE OF DECLINING OUTPUT

By Victor Lauriston

CHATHAM, Ont., July 31.—Official figures of Ontario natural gas production for 1925 show a continuance of the decline which has in recent years characterized the industry. The total 1925 production for all fields reached 7,062,369,000 feet; this being 330,349,000 feet less than for 1924. The approximate value of 1925 production was $3,888,397, a decline of $187,697 from the previous year's figures.

Of the 1925 production, more than half came from the Tilbury Field in Kent County, first developed about 20 years ago. In the official figures, the Essex County production is lumped with the Tilbury Field, showing a total of 4,771,023,000 feet. As the Tilbury Field, however, contains 255 wells to only 13 in Essex, the Essex contribution on the total figure is merely nominal.

Among all the Ontario counties, Kent now leads in natural gas production. In addition to the Tilbury Field, Kent has also the deep (Trenton limestone) field in Dover Township, which shows a production for the year of 126,687,000 feet. Next to the Tilbury Field, the largest producing area was the Haldimand-Norfolk-Wentworth-Lincoln Field, whose production for the year amounted to 2,291,346,000 feet. The Welland Field, in the Niagara peninsula, ranked third, producing 294,843,000 feet; the Vienna-Courtland-Richmond areas in Elgin and western Norfolk had to their credit a production of 55,365,000 feet, while the various fields in Lambton County, the most important of these being in Dawn Township, produced 50,913,000 feet in 1925.

In all, some 13 Ontario counties possess natural gas production, though in some the production is relatively small. Brant County is credited with a production of 979,000 feet for the year; Bruce County with 650,000 feet; Peel County has no production credited, but the gas in two small wells there is valuable for its helium content. Middlesex County is given a production of 2,030,000 feet for the year.

Official figures show, in 1925, a total of 2,115 producing wells. In the same period 174 wells were abandoned as no longer commercially productive. Some 140 new wells were drilled in 1925, of which 118 were productive and 22 were dry holes. The new producing wells were credited with an initial open flow production, all told, of 8,440,000 feet.

Average Production

This represents an average production for each new well of 71,000 feet, open flow, a marked contrast to the early days of the Tilbury Field, when a well with 1,000,000 feet open flow was regarded as small.

The distribution of wells by counties is shown as follows:

County—	Wells 1925— Prod.	Abd.	Dry	Wells Dr'd.— Prod	Open flow new wells
Essex	13	1	..	3	90,000
Kent	261	16	1	7	3,468,000
Lambton	31	...	..	...	.....
Middlesex	3	...	..	...	.....
Elgin	45	9	..	...	.....
Norfolk	121	8	4	15	711,000
Haldimand	804	107	15	82	4,102,000
Wentworth	72	16	..	...	.....
Lincoln	42	5	..	4	not given
Welland	318	6	2	5	not given
Brant	32	6	..	2	36,000
Bruce	2	..	..	...	.....
Peel	2	...	..	...	.....
Surface wells.	69	...	..	...	.....
Private wells.	300	...	..	...	.....
Total	2,115	174	22	118	8,440,000

Rock pressures vary according to the character of the field. In the old Welland Field, productive since 1889, they vary from 50 to 131 pounds; in Haldimand from 78 to 254; in the newer Norfolk and Elgin Fields from 191 to 487; in the Tilbury Field from 273 to 300, and in the Dover deep field, 431 pounds. In the Dawn Township Field, Lambton County, the rock pressure, 690 pounds, is the highest.

Owing to the inevitable decline of the fields, the production of many wells is today very small. Indeed, it averages less than 10,000 feet per well per day. A continuance of this decline from year to year may reasonably be anticipated. The amount of new drilling is comparatively small, and the resulting new producing wells are, individually, small producers. This drilling is practically restricted to the old proven fields, partly owing to the consistent failure in recent years of attempts to develop new production by wildcatting operations, and partly owing to the necessity of a ready market for the production.

Pipeline Companies Drill

Drilling is largely carried on by the various pipeline companies, primarily interested in replenishing their natural gas supply. Official figures show, in 1925, some 265,161 acres under lease, the sum of $113,232.27 being paid for rentals.

While the old fields are slowly but surely declining, the prospects of developing new production are not such as to excite optimism. Of the new producing areas developed in recent years, neither the Dawn Field in Lambton County nor the Dover Field in Kent County has lived up to its early promise. Operators are disposed to regard the prospects of developing new fields on a par with the great gas fields of Haldimand and Tilbury as entirely negligible. Most of the possible horizons, except the Trenton limestone, have been thoroughly tested; and Trenton drilling is so expensive a proposition and the results have been so small in comparison with the cost, that no great eagerness is shown to try out the deep formations in the search for new production.

Natural gas is supplied to consumers in 94 different urban and rural communities in southwestern Ontario, with a population of approximately 400,000. The territory supplied stretches from Hamilton on the east to Windsor on the west. The exhaustion of the eastern fields led some years ago to the piping of gas from the Tilbury Field to eastern markets, and this in turn has contributed to the rapid depletion of the Tilbury production. Contrary to popular opinion, there are a large number of companies and private individuals interested in the production and distribution of natural gas.

In the absence of any prospective new sources of supply, the natural gas situation is one which calls for conservation. The conservation measures inaugurated in recent years have been very well carried out. The producing and pipeline companies have done a great deal to check waste in wells and lines, and a growing tendency is seen on the part of consumers toward more efficient use of natural gas, and the employment of more efficient and economical apparatus for utilizing the fuel. The success of these measures is indicated by the fact that in 1925, despite the declining supply the service was well maintained, even in the winter months.

Indeed, the lessened production is in part credited to the increased tendency to conserve the supply, rather than to actual depletion, and it is regarded as a reasonable expectation that, with increasingly efficient methods, the supply will be adequate, at least for domestic purposes, for some years to come.

The work of conservation is being carefully watched by Col. R. B. Harkness, natural gas commissioner for Ontario. Commissioner Harkness has general supervision of all producing fields and pipeline and distributing systems in behalf of the province, and is using every effort to conserve and protect the fields.

GAS PRESSURE DROP INDICATED BY ALARM

SHREVEPORT, La., July 31.—One of the most important factors in gas distribution for domestic or industrial use is keeping gas in the mains as near as possible at a constant pressure. A sudden drop in pressure sufficient to cause the pilot lights on water heaters and other appliances to become extinguished may result disastrously.

To guard against such an accident, T. C. Buchanan of the Beaumont division of the Southwestern Gas & Electric Co. of Louisiana has designed an alarm that is proving successful.

Beaumont gets its gas through the Magnolia company's 250-mile 18-inch line running from the Waskom gas field in north Louisiana. The Southwestern is the distributing company. Gas comes in at 125 pounds pressure and is stepped down by two regulators at the city limits. An emergency supply of 1,000,000 feet is kept in the gas company's holders.

The alarm has worked satisfactorily on two occasions. A large "U" gauge with a float having a plunger and brass contact point attached was used. On the back of the gauge an upper and lower contact point could be adjusted for maximum and minimum pressure. The two points are connected to a horn operated by a storage battery.

The plunger works between these points. When the pressure drops below the gauge setting contact is made with the point on the plunger and the lower point, causing the alarm to sound.

On two occasion when the Magnolia's high pressure line broke, the instrument convinced its designer of its importance. The alarm gave the regulator man plenty of warning and the emergency supply was turned into the city mains while the trunk line was being repaired.

CENTRAL OHIO FIELD HAS FEW COMPLETIONS

LIMA, Ohio, July 31.—Few completions were reported from the Central Ohio Field. In Monroe Township, Holmes County, the Empire Gas & Fuel Co. hit a nice gas well at a test in the southwest corner of the Oscar Steele 115 acres, Lot 6.

In Columbia Township, Lorain County, the Empire Gas & Fuel Co. drilled a duster in a test in the northwest corner of the M. & B. Francis 110 acres, Lot 30, and the Logan Gas Co. struck one at a test in the southeast corner of the Jacob Landin 86 acres, Lot 75.

In Green Township, Wayne County, W. E. Hawk and others got an average gas producer at a test 1,412 feet from the north line and 400 feet from the east line of the C. E. and C. A. Eby 134 acres, Section 6.

In Dover Township, Cuyahoga County, the Logan Gas Co. struck a good gas well on E. and F. Rose farm, Lot 27.

In Knox Township, Vinton County, the Co-Operative Oil Co.'s No. 2 on the W. W. Beekley farm, Section 2, is reported at 6 bbls.

COLUMBIA GAS

Columbia Gas & Electric Co. and subsidiaries report for six months ended June 30, 1926, consolidated net income of $6,818,418 after taxes, charges, depreciation and preferred dividends of subsidiaries, equivalent after preferred dividends, to $3.43 a share earned on 1,500,000 no par shares of common stock. This compares with $4.741,421 or $2 a share in first six months of 1925.

Report of Columbia Gas & Electric Co. and subsidiaries, controlled by practically 100 per cent stock ownership, for June and six months, compares as follows:

	1926	1925
June gross	$2,625,582	$2,521,791
Net after tax and dep...	1,008,371	969,614
Total income	1,286,955	1,191,451
*Surplus after chgs.	647,089	585,905
6 months gross	19,855,137	16,016,531
Net after tax and dep...	8,935,444	6,929,294
Total income	10,634,098	8,101,321
*Surplus after chgs.	6,818,418	4,741,421

*After preferred dividends of subsidiaries.

MORE ABOUT SPEECHLEY WELL

OIL CITY, Pa., July 31.—Favorable weather is assisting a very efficient force of builders in the construction of the Sage Run branch of the state concrete road from Oil City to Fryburg in Clarion County. Only that section from McCray schoolhouse to the Fryburg connection remains to be completed a distance of about 4 miles. Patrons over the unfinished portion pass the Speechley farm, on which the first great gas producer of record was drilled and naturally, their attention it attracted by the work being done in the way of cleaning out one of the wells.

The location of this is close to the highway and about a half mile from the original well.

Hundreds of wells have been drilled in the field which now extends from the southern end of Rockland Township, Venango County, to Tionesta Township, Forest County. The field is about 30 miles long with an average width of 3 miles. The sand is from 50 to 100 feet thick. Constant drilling is necessary to keep up the supply.

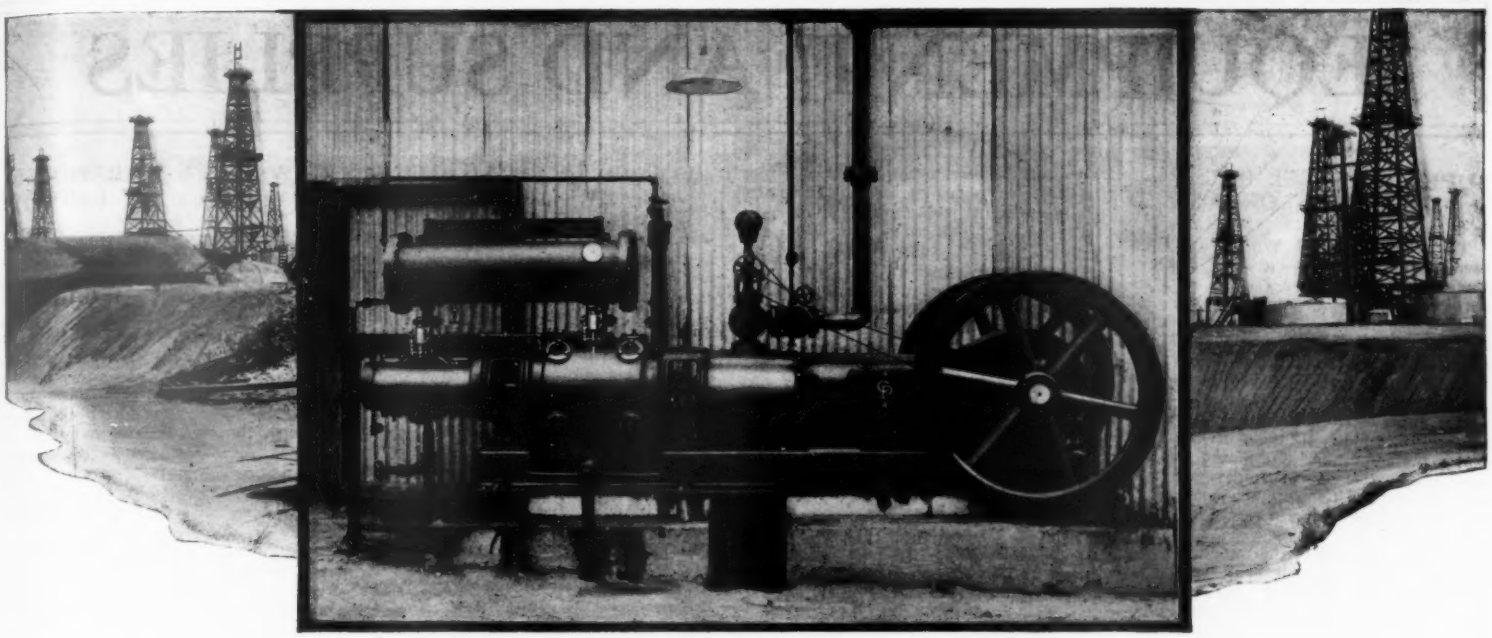
Mr. Speechley died January 9, 1893, aged 61 years. He was born in England and at the age of 14 he started to learn the trade of locomotive building and marine engineering at Newcastle on-the-Tyne. At 20 years of age his employers, Robert Stephenson & Co., sent him to China to join a steamer engaged in the opium trade. In 1885 he entered the service of the Chinese government to suppress piracy on the coast and in 1857 he started at Hong Kong the first engineering business in the vast celestial kingdom. In 1872 he visited Philadelphia, then went to Cranberry Township, this county, intending to visit for a year, but liked the location and bought the farm which became famous later under his name.

WARREN COUNTY GAS WELL

TITUSVILLE, Pa., July 30.—A gas well drilled in Eldred Township, Warren County, has an estimated flow of 2,000,000 to 3,000,000 feet a day, being one of the largest, it is said, ever encountered in this region. It will be drilled farther into the sand in the hope of getting oil.

TRANSFERRED TO SHREVEPORT

SHREVEPORT, La., July 31.—M. T. Walker, formerly general manager of the Beaumont division of the Southwestern Gas & Electric Co., of Louisiana, has been transferred to Shreveport, La., to take charge of the company's operations in this territory. He succeeds A. G. Curtis, who resigned that position after 20 years of service, to move to Chicago, Ill. Mr. Curtis came here in 1906 when the Southwestern was serving 1,504 customers with artificial gas. Now the city is supplied natural gas by the Southwestern and 18,123 gas meters are in service.



Chicago Pneumatic Steam Driven Air or Gas Compressor installed at Davis & McMillan Well No. 9, Long Beach, California

Flow Your Wells With CP Compressors

THE use of compressed air or gas for flowing oil wells represents one of the greatest advances in the history of oil production. With machines designed especially for this purpose, the Chicago Pneumatic Tool Company is playing a leading part in the development of this phase of the industry.

The CP high pressure compressor shown above is in continuous operation, producing 145 to 160 barrels per day at much less cost than was formerly possible on the pump. In addition to this increased production efficiency, 410,000 cu. ft. of dry gas introduced per day is returning over 700,000 cu. ft with gasoline extraction content over 7 pints per 1,000 cu. ft.

The economy and dependability of CP high pressure compressors for flowing wells has been proven to the satisfaction of many of the largest producers. One well using a CP reports an increased output of from 200 to 300%.

You can get the same results. Our engineers will be glad to discuss your needs. Write for Bulletins.

Chicago Pneumatic Tool Company

6 East 44th Street, NEW YORK, N. Y.

CP Products are stocked at 23 East Brady St., Tulsa, Okla.

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*Chicago	Houston	Richmond	*Berlin	*Durban	Madrid	Osaka	Seoul	*Toronto
*Cincinnati	*Los Angeles	Salt Lake City	*Bombay	*Havana	Manila	Oslo	Stockholm	*Vancouver
*Cleveland	*Minneapolis	*San Francisco	*Brussels	Helsingfors	*Mexico City	*Paris	Sydney	*Winnipeg
Dallas	*New Orleans	*Seattle	*Buenos Aires	Honolulu	*Milan	Rio de Janeiro	Tampico	
Denver	*New York	*St. Louis	Calcutta	*Johannesburg	Moncton	*Rotterdam		

Canadian Pneumatic Tool Company, Ltd., Montreal, manufacturers of Chicago Pneumatic products in Canada
Consolidated Pneumatic Tool Company, Ltd., London, manufacturers of Chicago Pneumatic products in England

C-204

BOYER PNEUMATIC HAMMERS · · LITTLE GIANT PNEUMATIC AND ELECTRIC TOOLS
CHICAGO PNEUMATIC AIR COMPRESSORS · · VACUUM PUMPS · · PNEUMATIC HOISTS
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CHICAGO *Depend upon* **PNEUMATIC** *that Name*

EQUIPMENT AND SUPPLIES

SUPERIOR STEEL PIPE COMPANY ORGANIZED

The Superior Steel Pipe Co., a new corporation with offices at 2111 Farmers Bank Building, Pittsburgh, Pa., has acquired the works of the former Memphis Steel Construction Co., in Greensburg, Pa. The works will be remodeled and equipped with up-to-date machinery and contracts for additional buildings are under way.

The Superior Steel Pipe Co. will manufacture steel plate products of all kinds such as steel tanks, stacks and breechings, kettles, ladles, standpipes, and will also be equipped to make riveted or electric welded steel pipe from 24-inch diameter upwards.

As a special feature the Superior Steel Pipe Co. will be in position to metal line its pipes, tanks or other products with zinc, tin, lead, copper and aluminum. This metal lining will be done by a patented spray process which has been used extensively in Europe for years and which has attracted the recognition of scientific and engineering associations.

Charles V. Witt is president of the new company; L. R. Foust, vice president, and W. B. Way, manager of sales. The company will be ready to operate by September 1.

PATENTED AUTOMATIC JERK LINE CONTROL

The picture below shows an automatic jerk line control which has recently been patented by Richard D. Hill and Walter

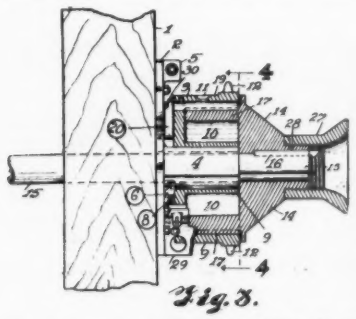


Fig. 3.

W. Foster. Its principal object is to provide a device for moving the tongs in setting up and breaking out casing.

A particularly important feature of the invention is that its construction enables the rig to be dismantled and transported without moving the device from its position on the jack post from which point it operates.

TRADE LITERATURE RECEIVED

The Hays Corp. of Michigan City, Ind., has sent out a catalog describing that company's new line of pointer gauges for draft, pressure and differential recording. It is said the gauges have very good records for accuracy, sensitiveness and simplicity.

—

From Porter & Co., briquetting engineers, comes a booklet entitled, "Conversion of Waste Into Profit." This booklet describes the Fernholtz briquetting process which handles oil-coke residue and manufactures briquettes which are said to possess very good fuel value.

—

The Ajax Rope Co., Inc., is distributing folders describing "Lawgore," a new style manila rope which has recently been patented. The new rope differs from the old type of line because it is built up on a core of twisted yarns. The "lay" of the core yarns, is almost at right angle to the "lay" of the cover yarns. This construction is expected to give interlocking action when the rope is subjected to load stresses. It is also claimed that the construction of the rope will prevent untwisting, and will minimize elongation of the strands.

—

The Sullivan Machinery Co. has mailed out Catalog No. 83-D on portable air compressors. The machine illustrated in its catalog embodies a number of improvements over previous designs. Among the new improvements are additional capacity and an air filter.

—

A circular has been received announcing the reorganization of the Texas Steel Co., of Fort Worth, Tex. John H. Kirby of Houston is now president; James K. Remsen is assistant to the president and also treasurer; John A. Coyle, of Pittsburgh, Pa., has been made metallurgical and operating manager. The plans of the company call for a wider extension of its capacities.

—

The Farley Machine Works of Arkansas City, Kans., has mailed to the trade booklets on Farley long-stroke pumping equipment. The makers of this type equipment claim many advantages for their product including increased production of wells; the longest pumping stroke practical, and the smallest percentage of valve plunger waste.

—

Dean Hill Pump Co. of Anderson, Ind., has distributed Bulletin 602 illustrating and describing its multi-stage centrifugal pumps.

ECONOMY OF DIESEL ENGINE

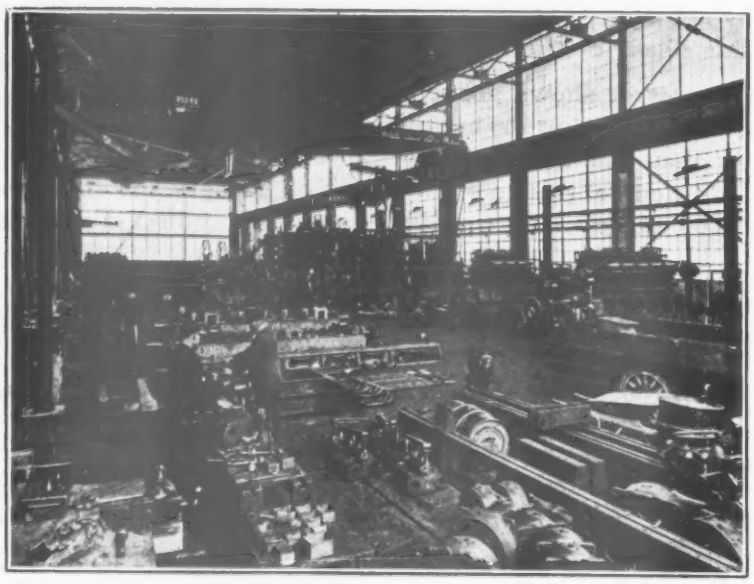
Diesel engines offer such an unusual opportunity to reduce power costs in almost every industry that a new 32-page bulletin, "Economy of Diesel Engine Power," issued by Fairbanks-Morse & Co., of Chicago, is of timely interest. The Bulletin takes up an analysis of the various factors which affect the cost of power such as fuel cost, operating labor, maintenance, first cost and fixed charges, reliability and simplicity. The costs of a typical small Diesel power plant are analyzed.

UNDERWRITERS LIST CLIMAX CO. ENGINES

Announcement is made by the Climax Engineering Co., Clinton Iowa, that the Underwriters' Laboratories, Inc., Chicago, have listed Climax engines as approved for fire protection purposes, the first medium-speed, industrial engines to gain the approval of the Underwriter's Laboratories for driving 750 and 1,000-gallon pumps.

The Climax engines passed by the Underwriters are Models "R4U" and "R6U" with approved equipment. Basically it is the same engine that is being used largely in the industrial world for cranes, shovels, locomotives, pumping and generator sets.

GAS ENGINE PLANT WORKING AT CAPACITY



Production is now under full swing in the new plant erected by the Bessemer Gas Engine Co., Grove City, Pa. The floor space used by the company now is 42,280 square feet more than it was six months ago.

The new building is of steel and brick, without a stick of wood used any place in its construction. It is built with two huge unobstructed parallel bays which are joined by a connecting bay. The large west bay measurers 65 feet by 280 feet long by 44 feet high, while the east bay is 56 feet wide by 280 feet long. The connecting bay is 30 feet wide and runs the entire length of the building, but is lower than the two main sections.

The arrangement of material handling equipment in this structure eliminates hand handling. By a careful co ordination and arrangement of this equipment —overhead traveling cranes, jib cranes and hoists—the moving of all parts is accomplished with ease and speed with no hand labor whatsoever.

The large west bay is served with a huge 40-ton overhead electric traveling crane (equipped with an auxiliary 7½-ton hoist for smaller loads), a series of 12 jib cranes and numerous small chain hoists.

The east bay is equipped with a 15-ton overhead electric traveling crane, jib hoists and chain hoists. All of this equipment is the very latest of its type.

The Bessemer Gas Engine Co. is just bringing out a new series of Diesel engines for stationary service and for auxiliary marine service.

This engine is a smaller horsepower unit built on the full solid injection Diesel principle with unusual efficiency and operating economy.

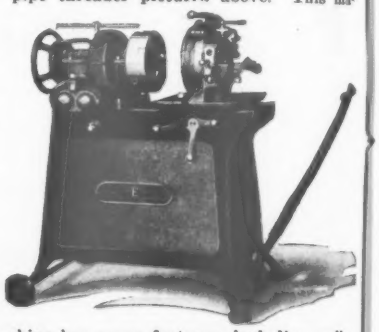
NEW STEEL WAREHOUSE BUILT BY EMPLOYES

The Butler Manufacturing Co., of Kansas City, Mo., has erected another building to be used as a warehouse. This new addition, like the last, is a "Butler ready-made steel building" made entirely of steel sheets and was erected by its own employes. The increase in business last year made it absolutely necessary to expand the Butler plant and naturally, being producers of steel buildings, it was decided to erect a steel building. This was not a new project as Butler already had one. The main idea was to give as much space as possible for the storing of products without the inconvenience of many or any center posts.

Early in the spring the erection of the building was started. Any employe that was not busy was put on the job. This meant the use of men from different departments who were not familiar with steel buildings and their erection.

PORTABLE PIPE THREADER

Hall-Will of Erie, Pa., has sent out folders on the "Red E," Hall portable pipe threader pictured above. This ma-



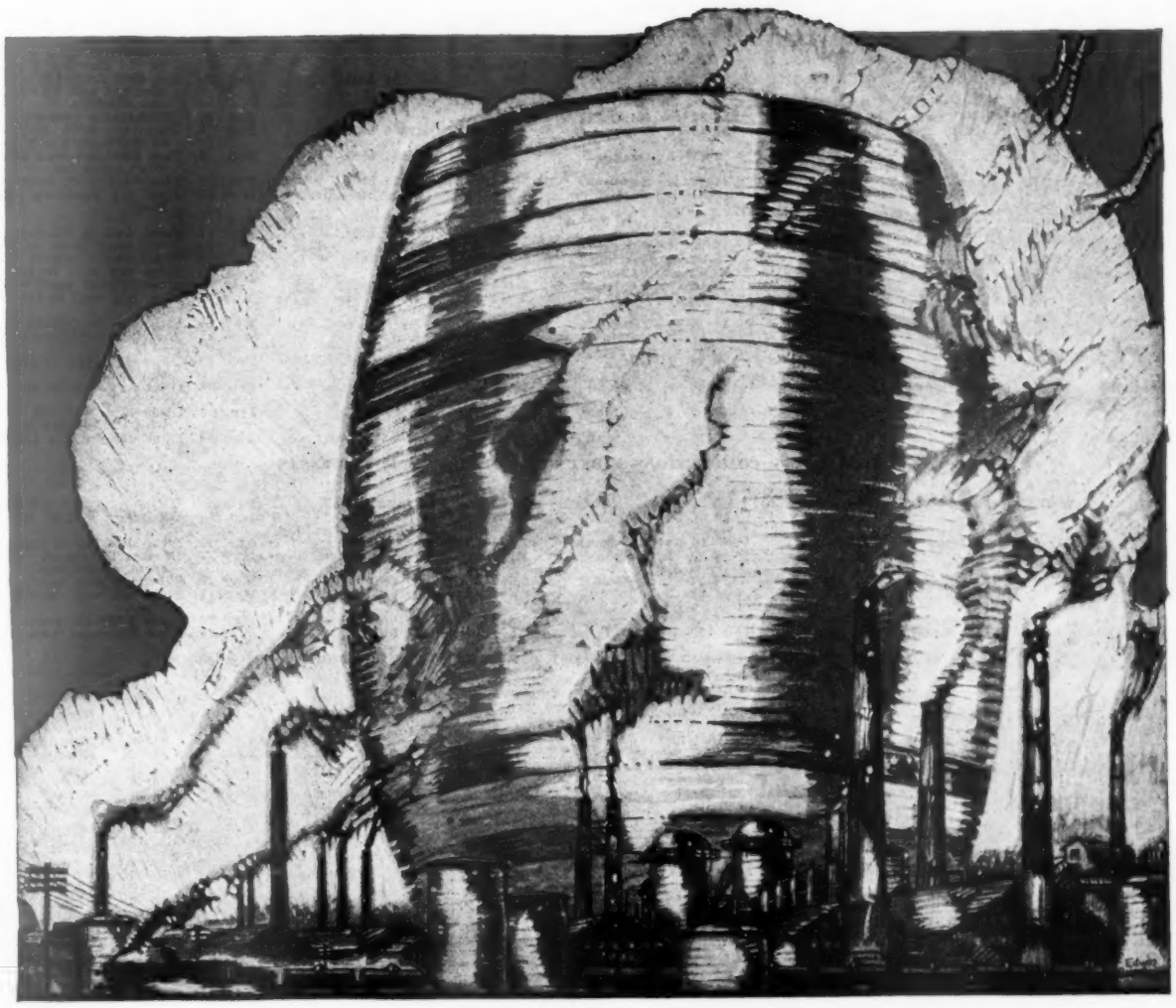
chine has many features, including malleable and steel construction, and built in truck, silent chain drives, and friction clutch.

CHAS. E. STONE VICE PRESIDENT

Charles E. Stone, for several years assistant to the president of the Chain Belt Co., has been elected vice president and general manager of the Interstate Drop Forge Co. of Milwaukee, manufacturers of commercial drop forgings. Mr. Stone graduated from the University of Michigan in mechanical engineering in 1910 and spent several years with the Foos Gas Engine Co. as engineer and later as purchasing agent. He went to the Chain Belt Co. in 1918 to take charge of its purchases. The Chain Belt Co. manufactures elevators and conveying machinery, concrete mixers and chain under the trade name "REX." Mr. Stone is well known among buyers, having been active in the National Association of Purchasing Agents since its organization and as vice president in 1922. C. C. Bremer, who has been comptroller for the Interstate Drop Forge for a number of years, was elected secretary. C. R. Messinger is president. Other directors are W. J. Nugent, president of the Nugent Steel Castings Co. at Chicago; C. F. Messinger, vice president of Sivyer Steel Castings Co.; William C. Frey, E. L. Wood and J. W. Milspaugh.

H. P. BOSTAPH MOVES

H. P. Bostaph, former representative for the Power Manufacturing Co., of Marion, Ohio, has been appointed general sales manager for the Texas Steel Co., of Fort Worth, Tex. Mr. Bostaph will be located in Fort Worth and will move his family from Tulsa, to that place in the near future.



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ATLANTA, GA.
BEAUMONT, TEX.
PENSACOLA, FLA.

REFINERIES
MUSKOGEE, OKLA.
ARDMORE, OKLA.
SMITH'S BLUFFS, TEX.
HEATH, OHIO.
MARCUS HOOK, PA
WARREN, PA.
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COMMANDS A PREMIUM PRICE — CABIN CREEK — OVER ALL OTHER CRUDES

Significant Completions Thus Far in 1926

SIGNIFICANT COMPLETIONS FIRST SIX MONTHS OF 1926—OKLAHOMA

Company—	Well No.	Farm Name	Location: Description	S	T	R	County	Sand Record	Initial Prod.	Date	REMARKS:
Roxana Petroleum Corp.	1	Harjo	SW NW	28-	7-	8	Hughes	4-206-4,230		Jan. 6	200 ft. OIH. This well showed a sharp dip in Hunton lime from Wewoka Pool.
Magnolia Petroleum Corp.	30	Vance	CNL S½ NW NE	7-	18-	7	Creek	2,428-2,479	700 bbls.	Jan. 10	Bartlesville sand well which revived interest in old Cushing Field.
Broken Arrow Oil & Gas Co.	7	.....	NE NW NE	6-	17-	15	Wagoner	Unknown. Est., 1,600	35 bbls.	Jan. 27	Old well drilled 8 years ago which had been plugged and which began to spray oil from the old hole.
Sinclair Oil & Gas Co.	26	S. Walker	NW SE	24-	22-	4w	Garfield	.....		Jan. 27	Oklahoma's deepest well, 5,432 ft.
Prairie Oil & Gas Co.	1	.....	SW SE	21-	25-	6	Osage	2,723-2,731	500 bbls.	Feb. 2	Discovery well, Fairfax Pool, 6 miles south of Burbank Field.
Phillips Petroleum Co.	16	.....	NE SE	2-	27-	5	Osage	2,932-2,944	2,500 bbls.	Feb. 6	This Burbank well offsets three tracts which were unleased.
Indian Territory Illum. Oil Co.	1	Dyer	NW SE	24-	9-	6	Seminole	3,978-3,986	600 bbls.	Feb. 27	Discovery well, Seminole Pool.
Roxana Petroleum Corp.	6-L	Shroeder	NE SW SW	18-	22-	3w	Garfield	3,055-3,061	120 bbls. hr.	Mar. 14	First big Tonkawa sand well in the Garber Field.
Mid-Continent Petroleum Corp and Marland Oil Co.	40	Walker	NE SE	13-	22-	4w	Garfield	2,498-2,501	460 bbls.	Mar. 17	First well in 2,500-ft. sand at Garber.
Magnolia Petroleum Co.	1	Vieux	NE SE SE	13-	7-	4	Pottawatomie	4,061-4,067	Show	Mar. 23	Deep sand show in new territory.
Sinclair Oil & Gas Co.	27	Hartley	NW NW	18-	22-	3w	Garfield	4,216-4,240	25,867 bbls.	Mar. 29	Oklahoma's largest well.
Roxana Petroleum Corp.	2	Stover	NW SW SW	13-	19-	4	Payne	3,736-3,740	HFW	Apr. 19	First dry hole in Ingalls Pool.
Comar Oil Co.	3	Bechtel	NW SW SE SE	5-	28-	1w	Kay	3,461-3,482	1,100 bbls.	May 3	First Wilcox sand well at Braman.
Sinclair Oil & Gas Co.	32	Hartley	NE SW NW	18-	22-	3w	Garfield	2,716-2,720	1,760 bbls.	May 9	First big well in lower Hoover sand at Garber.
H. F. Wilcox Oil & Gas Co.	1	.....	SE SE	21-	4-	14	Texas	2,692-2,700	8,000,000 gas	May 16	First gas in Oklahoma Panhandle.
Reiter-Foster Oil Co.	1	Jones	SW SW	4-	19-	1w	Payne	4,753-4,767	Show	June 16	Showing in Wilcox sand in new territory.
Carter Oil Co. (purchased from Wrightsman Pet. Co.)	1	.....	C SE	6-	24-	8	Osage	2,793-2,812	170 bbls.	Feb. 13	Discovery well of small Wilcox sand Pool in the Osage.
Kingwood Oil Co. and others	1	McFarland	SE SW SE	28-	8-	9	Hughes	3,412-3,419	265 bbls.	Feb. 22	Discovery well in small Papoose sand pool.
Magnolia Petroleum Co. (purchased from Morgan & Flynn	1	Ingram	NW SE	10-	9-	5	Seminole	3,558-3,580	110 bbls.	Jan. 26	Discovery well in unidentified sand pool which was very limited in area.
Texas Pacific Coal & Oil Co.	1	.....	NE NW	23-	18-	3w	Logan	3,846-3,850	4,000,000 gas	Apr. 20	First gas well in Logan County.

SIGNIFICANT COMPLETIONS FIRST SIX MONTHS OF 1926—KANSAS

Company—	Well No.	Farm Name	Location: Description	S	T	R	County	Sand Record	Initial Prod.	Date	REMARKS:
Carter Oil Co. and D. P. Fleeger	1	.....	NE SE	16-	27-	7w	Kingman	3,878-3,895	737 bbls.	Jan. 23	Discovery well of Kingman "pimple."
Phillips Petroleum Co. and Wrightsman	1	Williams	C SW	3-	16-	8w	Ellsworth	1,134-1,136	Show gas	Apr. 20	First showing of gas in Ellsworth County.
Troup and others	1	Troup	SW NW	8-	19-	4	Marion	2,360-2,365	10,000,000 gas	May 2	Bartlesville sand well completed 9 miles from production.
Chastain & Chastain	1	Custer	NW SE	7-	27-	1	Sedgwick	3,560	300 feet OIH	May 10	Showing in a wildcat well.
Roxana Petroleum Corp.	1	Miller	NE SW	17-	32-	2	Sumner	3,637-3,642	650 bbls. by swab	May 17	First oil well drilled on flank of granite ridge.
Roxana Petroleum Corp.	1	Churchill	NE SW	23-	32-	2	Sumner	1,812-1,819	175 bbls. by swab	May 26	First 1,800-ft. production in this region.
J. A. Hull Co. and Shaffer Oil Co.	1	State Land	NW SE	15-	32-	4	Cowley	3,303-3,320	875 bbls.	June 26	First Siliceous lime well in this territory.

SIGNIFICANT WELLS COMPLETED IN WEST TEXAS IN FIRST SIX MONTHS OF 1926

Company—	No. Well	Farm Name	Location	County	Sand	Initial Prod.	Date	Remarks
Dixie Oil Co.	2	Hughes	Section 4, Wm. Teer Survey	Upton	2,025-49	2,400	7- 5-26	Biggest West Texas well outside Big Lake Field.
Marland Oil Co.	6	Sanger	Hurdle District	Upton	2,192-2,228	1,256	7-11-26	Another big well.
Dixie Oil Co.	1	A. S. Burleson	T. C. Jones. Survey No. 100	Upton	2,188-2,219	25	3-7 -26	Gravity 31-32 degrees.
Dixie Oil Co.	1	E. S. Hughes	Wm. Teer Survey	Upton	2,067-93	40	5-25-26	
Independent Oil & Gas Co.	1	A. S. Burleson	T. C. Jones Survey	Upton	2,168-2,210	10	4- 8-26	
Marland Oil Co.	1	Benton Land	1 Mi. north of Dixie 1 Hughes	Upton	2,348-63	55	5- 2-26	
Marland Oil Co.	1	Sanger	Hurdle District	Upton	2,208-30	75	3-20-26	
Gulf Production Co.	1	E. T. McElroy	SE cor. Sec. 203, Block F.	Crane	2,713-46	190	Not Comp.	
Independent Oil & Gas Co.	1	L. Taylor	Hurdle District	Crane	2,038-45	140	2-24-26	
Magnolia Petroleum Co., (Church & Fields)	1	University	Sec. 34, Block 30, University	Crane	3,038-40	90	4-19-26	About 15 Mi. N. of Independent
F. P. Zoch & Marland Oil Co.	1	Keith-Hughes	Section 92	Crane	2,564-74	110	4-23-26	
The Texas Company	1	J. S. Todd						
Cromwell et al.	1	Powell	Humble-Powell Field	Crockett	1,695-1,705	1M	4-24-26	Gasser,shut in.
Gulf Production Co.	1	Hutchings	Section 47, Block N.	Crockett	2,644-65	360	3- 1-26	Best in pool to end of June.
Owen & Sloan	1	Otis Chalk	Section 113, Block 29 W & NW	Ward	4,787	D&A	6-15-26	Made 1M gas 4,495-4,724.
Deep Rock Oil Co.	1	Scott-Hyman		Howard	1,577-84	60	4-18-26	Discovery.
Choate & Henshaw and the Marland Oil Co.	1	O'Daniel		Howard	2,705-35	...		Made a flow—still cleaning.
				Howard	2,640-3,000	65	5-12-26	
Big Lake Oil Co.	54	University	Big Lake Field	Reagan	3,065-70	2,600	1-15-26	Exceptional well of recent months
Big Lake Oil Co.	37-A	University	Big Lake Field	Reagan	2,428-30	2,400	3- 3-26	Another exceptional producer.
Texon Oil & Land Co.	34	University, Group 1	Big Lake Field	Reagan	2,944	2,420	1-17-26	One of best this year.
Fred Hyer	1	Clay	SE cor. of County	Howard	1,508-12		6- 1-26	
					1,546-63	40		
Magnolia Petroleum Co.	1	A. P. Watson		Mitchell	2,856-72	47	6- 1-26	

SIGNIFICANT WELLS COMPLETED IN NORTH CENTRAL TEXAS IN THE FIRST SIX MONTHS OF 1926

Company—	Well No.	Farm Name	Location	County	Sand Record	Initial Prod.	Date	Remarks
Roeser & Pendleton & Marland	1	W. I. Cook A-85	CSE NW NE S-85 B-10 ETRR	Shackelford	1,227-31	600	2-18-26	Discovery Cook Ranch Pool.
Humble Oil & Refining	1	W. I. Cook	SE Cor. SW S-84 B-10 ETRR	Shackelford	1,344-51	600	3-31-26	Opened NW part of Cook Pool.
Roeser & Pendleton	2	W. I. Cook B-85	NW Cor. SE NE 85-10 ETRR	Shackelford	1,220-38	2,500	5-22-26	Record gusher Cook Pool.
Pandem Oil Corp.	1	Thomas	1¾ Mi. NW Archer City	Archer	1,153-60	75	5-26-26	Discovery—Thomas Pool.
Cook & McElreath	1	Kreeger	½ Mi. E Megargel	Archer	1,418-20	150		Discovery—Kreeger Pool.
Magnolia Petroleum Co.	1	Cassidy SW Com. Co.		Wise	T.D. 5,858	D&A	1- 5-26	Deep dry hole.
Harry Gwinnup et al.	1	Dibrell	10 Mi. NE Coleman	Coleman	1,873-81	100	1-17-26	Discovery—Dibrell Pool.
Texhoma Oil & Refg. Co.	3	Wolf	Oldham Pool	Archer	1,313-48	600	2-15-26	Big well of this pool.
Anderson et al.	1	Allen		Brown	1,086	100	2-20-26	Discovery.
The Texas Company	1	Dunn	Dunn-Stover Pool	Brown	1,106-27	1,125	3-10-26	One of largest in pool.
C. C. Lanier et al.	1	Hyman	Thomas Moss Survey	Cooke	2,122	D&A	6-15-26	Led to discovery of Hyman Pool.
Hope Petroleum Co. et al.	1	Davis	Sec. 13, Block 12, T. & P.	Shackelford	1,472	80	5-12-26	Discovery—Hope Pool.
Gulf Production Co.	1	Carsons	South of Olden	Eastland	1,500-31	248	5-14-26	Discovery—Parsons Pool.
Chenault & Lea	1	Rachuig	2½ Mi. NW Olney	Young	1,164-72	450	5-20-26	Big well in E. ext. Gambrell Pool.
Magnolia Petroleum Co.	1	Moberly	¾ Mi. South of Cook Pool	Shackelford	1,308-11	30		May have opened another pool.
Milham Corp.	1	Sedwick	Sec. 1561 T. E. & L.	Shackelford	3,550-70	450	6-22-26	Exceptional for district in deep lime.
William Lester	1	Fry	Near Town of Thrifty	Brown	1,276	...	6-24-26	Discovery, new Cross Cut sand pool
			North of Crosscut Field				6- 1-26	Discovery, half way between Cross Cut and Pioneer Pools.
Prairie Oil & Gas Co.	1	Trammel		Brown	1,324	100		
Texas-Consolidated Oil	7	Martin	South of Ivan	Stephens	3,957	1,240	6- 3-26	Big producer in lime.
Prairie Oil & Gas	1	Cunningham	Southwest of Cross Plains	Callahan	1,398-1,407	250	6-17-26	Extended Cross Plains Pool SW.
Prairie Oil & Gas	10	McDonough	Cross Plains Townsite	Callahan	1,392-1,401	400	6-20-26	Big well Townsite Pool.
Red Bank Oil Co.	1	Parrott	2 Mi. NW Stubblefield Pool	Throckmorton	3,929-46	450	4- 8-26	Discovery—Caused 20 tests start.
Mid-Kansas Oil & Gas	3	Hill	Eliasville District	Stephens	3,161-79	3,600	3- 7-26	One of best in history of district.

TITLE ATTACK BLOCKED

WASHINGTON, D. C., July 31.—The Standard Oil Co. of California has succeeded in stopping an Interior Department attack on the validity of titles to 638 acres of land held by it in the Elk Hills Naval Oil Reserve of California. Working under the Interior Department was to have held hearings at Visalia, Calif., to inquire into the character of the land, once Government owned but later turned over to the State of California. The oil company obtained the land from the State. An injunction issued by Justice Smith of the Supreme Court of the District of Columbia called a halt on this hearing.

SIGNIFICANT COMPLETIONS IN NORTH LOUISIANA DURING FIRST SIX MONTHS OF 1926

Company Name—	Well No.	Location	County	Sand Record	I.P	Comp. Date	Remarks—
Magnolia Petroleum Co.	1	Mitchell	Caddo	4,329	Dry	1- 6	Trinity test.
D. C. Richardson	1	Youree-Randolph	13-20-15	Caddo	2,258	300	1- 4	Caddo extension.
The Texas Company	1	F. J. Bayou	15-20-15	Caddo	3,628	Dry	1-15	Trinity test.
Palmer Corp.	1	Davis	23-21-10	Claiborne	4,385	7M Gas	2- 5	Cotton Valley deep test.
Ohio Oil Co.	1	Hodges	23-21-10	Webster	4,415	Gas	2-19	Cotton Valley deep test.
Gulf Refining Co.	18-C	Williams	31-13-11	De Soto	6,090	S.W.	3- 5	Deepest hole in district.
Gulf Refining Co.	17	Lane	13-21-15	Caddo	3,782	15	6- 2	Caddo deep test making 5M
Sam D. Hunter	1	D'Arbone	32-19-3e	Ouachita	2,220	3M Gas	5- 4	Extended Monroe field.
Ohio Oil Co.	18	Smith	12-21-15	Caddo	3,668	40M Gas	5- 6	Trinity test dry at 3,913.
Montague Oil Co.	1	Zenoria	11- 9-1e	La Salle	1,500	100	5- 1	Urania extension.
Hunt et al	1	Urania	7-10-2e	La Salle	1,520	300	3-4	Urania extension.
Natural Gas Products Co.	18	Crossett	27-23-5e	Moorehouse	3,152	Dry	6-20	Monroe deep test. Hole

SIGNIFICANT COMPLETIONS IN WYOMING-MONTANA IN FIRST 6 MONTHS 1926

(Deep Drillings to Test Sands Underlying Productive Horizons)

Company—	Well No.	Location	County & State	Sand Record—Feet—	Initial Prod	Date first strike
Midwest Refining Co.	26L	26-40-79	Natrona, Wyo.	Morrison, 2,828 Sundance, 2,600 Tensleep, 3,400	2,000 2,000 water	January, 1926
Ohio Oil Co.	4	8-46-93	Hot Springs, Wyo.	Amsden, 4,200	600	1924
Argo Oil Co.	1	27- 2- 1	Fremont, Wyo.	Dakota and Lakota, 3,000	dry	June, 1926
Ohio Oil Co.	1	32-26-88	Carbon, Wyo.	Sundance at 2,860	gas	March, 1926
California Co.	7	12-15-30	Petroleum, Mont.	Ellis and Madison, 4,000	dry	January, 1926
O'Neil Bros. et al	..	Sunburst	Toole, Mont.	Stray, 1,425	up to 2,000	March, 1926

(Continued on Page 64)

SING WAY LO DRILLS A WELL

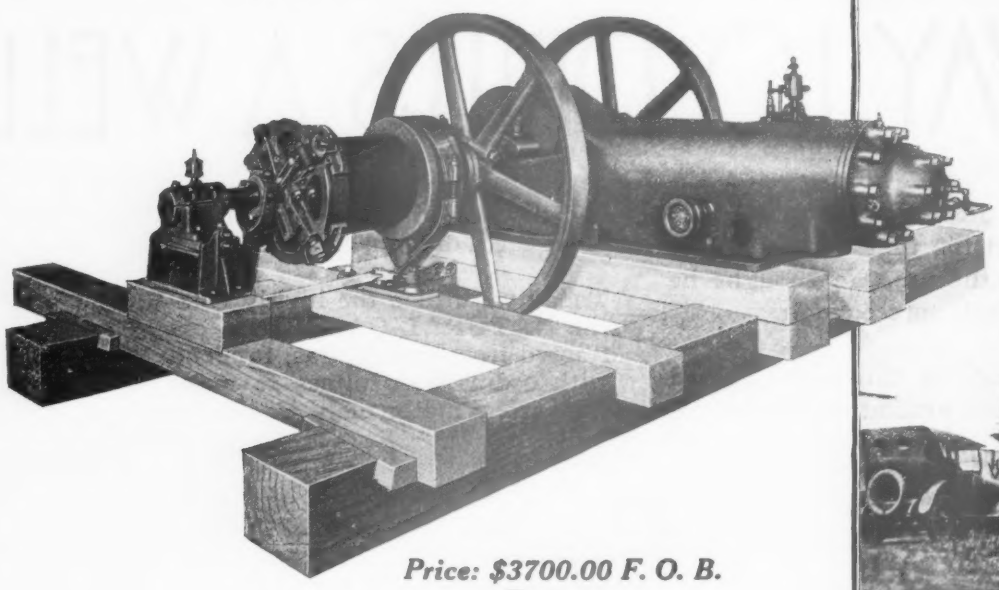
Back in 615 A. D., Sing Way Lo drilled in his first "gasser". The well caught fire. He thought he had hit hell sure enough.

After that he threw no lighted punk sticks around carelessly. He had discovered the power of the great earth dragon, "Natural Gas."

Today we utilize the highly volatile **NATURAL GASOLINE**, extracted from natural gas, to blend with ordinary gasolines to make the perfect motor fuel.

CHESTNUT & SMITH
CORPORATION
Tulsa, Oklahoma

OIL DRILLING ENGINE



Price: $3700.00 F. O. B. Factory

What Brings the Steam Users Around to Franklin Valveless?

If you can show a driller or contractor that your power plant will drill more hole at a lower cost and with less trouble, he's "sold". And that's exactly what Franklin Valveless Oil and Gas Engines are doing in the Mid-Continent and Eastern fields, where steam, until recently, was the prime favorite.

But considering the steam engine's dependence upon a good and cheap water supply, the difficulties of transporting so much dead weight and its enormous fuel consumption, it is easy to see why the advantages of Franklin Valveless Engines interested the contractor and operator.

Extreme Simplicity of Construction

The Franklin Valveless Oil Engine is a single cylinder, three-part, two-cycle engine, with the fewest possible number of moving parts. All bearings and gears run in a bath of oil, and while fully protected from sand and grit, are easily accessible. The Franklin lubricating system is the most efficient known. An inexperienced crew can set up and operate a Franklin Valveless without trouble or delay.

Adaptable to Any Fuel Conditions

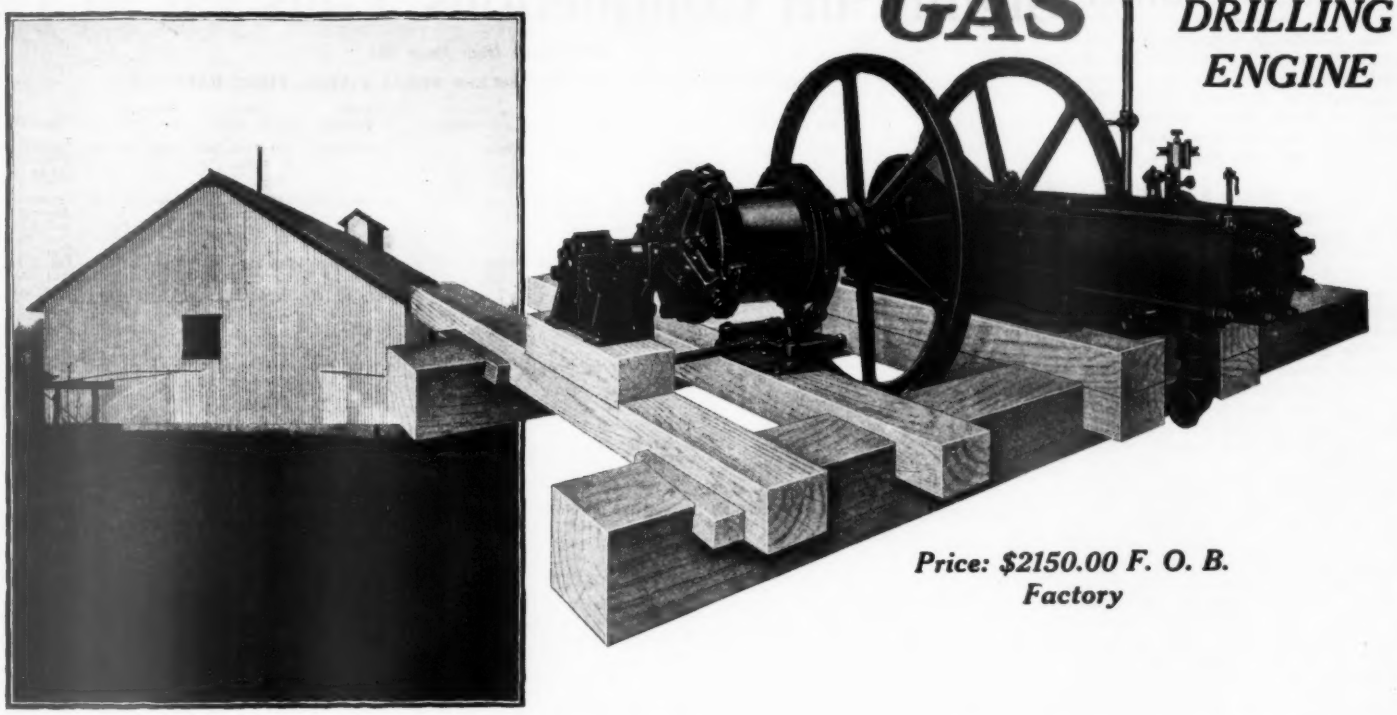
If the owner of a Franklin Valveless Oil Engine goes into a field where gas is cheap, he can convert his oil engine into a gas engine in two hours—simply by changing cylinder heads and replacing fuel pump with magneto.

Lowest Operation and Maintenance Costs

The fuel bill for a Franklin Valveless is actually less than that for a Ford automobile! Average fuel consumption for drilling is approximately 1½ gals. of 8c fuel oil per hour. Lubricating costs and repair bills are cut to a minimum—many Franklin Valveless engines have drilled from 10 to 30 wells without costing their owners one cent for repairs. As for water—100 barrels will cool the engine and mix mud for approximately 1000 feet of hole. No wonder Franklin Valveless users say they are saving from $20.00 per day and up using this dependable, economical drilling engine!

FRANKLIN VALVE

THEY BEAT STEAM



Price: $2150.00 F. O. B. Factory

Change From Driller to Pumper on the Same Block

While the Franklin Valveless Gas Engine is like the oil engine in principle, it has one more big advantage—that of interchangeability. When drilling is completed you can leave this engine on the block for pumping or replace it with one of less horse power without changing a single bolt on the original foundation. This feature warrants the building of the most satisfactory engine foundation—concrete.

Service

Even though Franklin Valveless Engines can be set up and operated successfully by an inexperienced crew, our distributors will furnish, upon request, a factory mechanical expert to demonstrate and assist in the economic use of these power plants.

Prices

Complete with self-oiling reversible drilling clutch, circulating pump and fuel tank.

FOR MID-CONTINENT AND WESTERN DRILLING SERVICE

Oil—$3,350 and $3,700 Gas—$1,725 and $2,150

FOR EASTERN DRILLING SERVICE

Oil—$2,600 and $3,350 Gas—$1,450 and $1,725

Pumping Engine Prices on Request

All prices F. O. B. Factory

FRANKLIN VALVELESS ENGINE CO.

Franklin, Penna.

Distributed by

Atlas Supply Company
Muskogee, Okla., and Branches

New Martinsville Supply Co.,
New Martinsville, W. Va.

Bradford Sales Co.
Bradford, Penna.

Washington Engine & Pump Co.
Washington, Pa.

International Supply Co.
Tulsa, Okla. and Branches

Wooster Tool & Supply Co.
Wooster, Ohio

Atha Supply Co.
Zanesville, Ohio

McEwen Brothers
Bolivar, N. Y.

American Tank Co. of Colorado
Casper, Wyoming

LESS ENGINES

AT EVERY TURN

XUM

W. G. SKELLY VISITOR TO SAGINAW DISTRICT

Oil has practically outgrown the old fly-by-night days and has become one of the solid, stable businesses with a future that apparently is extremely bright, W. G. Skelly, of Tulsa, Okla., president of the Skelly Oil Co., of Tulsa, said while on a visit here, says the Saginaw, Mich., News-Courier.

Mr. Skelly was visiting Albert T. Farrell, of Saginaw, who is a director of the Skelly company.

Mr. Skelly commented briefly on the Saginaw oil development.

"I know little about what has been done here, but if it develops it may well be extremely valuable to your city," he said. "The Berea grit is recognized as a long-lived producing sand and from what I have been told of the development here I should say that it may be made profitable if the wells are not drilled too close. Town lot drilling usually is not very profitable."

In discussing the oil business in general Mr. Skelly declared that oil has become one of the great staples of the nation.

"The business is on a sound basis now, with substantial backing and operated with sound business methods," he said. "Many people think it still is a highly speculative business, but I think we have come out of the fly-by-night days pretty well and that the oil business is taking its proper position as one of the great basic industries.

"Conditions of the present day are making it more and more important and I feel it is bound to be prosperous. It suffers depressions, as does any business, but the continually growing number of automobiles and trucks, with their vastly important part in American life, are a guarantee that the oil business must continue. Aviation, too, is furnishing a steady growing field for the outputs of the petroleum industry. With all these things developing I feel that the oil business cannot suffer much of a depression."

NEW DEFINITION OF OIL WELL EQUIPMENT

AUSTIN, Tex., July 30.—The Railroad Commission has issued an order providing that on shipments of cast iron pipe, couplings and connections to the Rock Island stations of Soncy, Bushland and Wildorado, the 36½-cent rate will apply without differentials.

A new definition of well drilling machinery subject to certain weights and rules was adopted by the commission, reading as follows:

"Well boring or well drilling outfits, consisting of well boring or well-drilling machines, draw works and parts, or rig irons, with or without equipment of boilers, engines, crown blocks, derricks, ladders, mud mixers, light plants, traveling blocks, "C" hooks and double swivel hooks, drill collars, pumps or well casing and with or without necessary equipment or parts or tools, carloads, minimum weight 24,000 pounds, subject to Rule 24 of current Western classification."

OPPOSE CARBON PLANT

MARSHALL, Tex., July 30.—The city commission will seek to prevent the granting of a permit for the erection of a carbon black plant in Texas, near the Louisiana line, by parties Mayor L. E. Thomas of Shreveport, informed him were in Austin to seek the permit, Mayor T. B. Owens said. The city commission passed a resolution opposing the consumption of natural gas from the Waskom Field for burning carbon black.

GROSS RECEIPTS TAX

AUSTIN, Tex., July 30.—Gross receipts tax check of $123,665, on oil produced during the three months ending June 30, from the Gulf Production Co. of Houston, was received by Comptroller S. H. Terrell.

Significant Completions Thus Far in 1926

(Continued from Page 60)

SIGNIFICANT WELLS IN SOUTHW EST TEXAS FIELDS, FIRST HALF 1926

Company—	Well No.	Farm Name	Location—	County—	Sand Record	Initial Prod., Bbls.	Date of 1st Prod.	Remarks—
Associated Oil Co., Usher Carson	2A	Webster	NW SW NE, survey 684.	Webb	2,609 tl.dp.	746 bbls 1st 19 hrs..	June 30, '26	Opens new field. First high gravity oil in Mirando dis.
Kitselman & St. Albans Corp.	27	R. Holbien	Blk. 40, Sec. 11 ,Holbien ranch, Las Animas Grant.	Jim Hogg	2,135-2,139	115 bbls 1st hlf. hr.	Apr. 6, '26	Opened new producing spot over a mile N and E of the H. W. & P. Pool.
Cin-Tex Petroleum Co.	1	Benavides	Blk. 16, Sec. 10, Cole subdivision of Benavides ranch.	Duval	1,781-1,788	105 bbls. hr. thru 1¼ in. choke.	Mch. 13, '26	On E edge of Cole gas field. Opened new pool.
George M. Ball	1	Bruni, blk 45	West half blk. 45, Bruni tracts.	Webb			Feb. 17, '26	Extended Mirando field mile south.
George M. Ball	1	Bruni, blk. 13	E half blk. 13, Bruni tracts.	Webb	1,760-1,766	Swab'd. 400 bbls. 1st 24 hrs.	Apr. 29, '26	Extended Mirando Field mile to east where previously field had been a shoestring.
W. O. Wheatley	1	Bruni	E half blk. 43, Bruni tracts.	Webb	1,727-1,732	Swab'd 300 bbls 1st day	May 5, '26	Gave Mirando Field half mile extension SE.
Humble O. & R. Co.	4	Walsh	Survey 185, at Nolede.	Duval	3,597-3,623	50 bbls. hr. thru ⅝ - in. choke.	Dec. 20, '25	After years of drilling on Piedras Pintas salt dome this is first producer.
Medina Oil Co.	1	Taylor	A. Bruchet, survey No. 135	Medina	357	Pmpd. over 100 bbls day	Feb. 8, '26	Produced from cavity. Offsets all around failed to duplicate it.
Henderson & Holden	1	Adams	E. C. Durst, survey No. 13	Medina	875- 903	9,800,000 ft. gas.	Mch. 14, '26	Opened new gas area and No. 4 Adams drilled since gauged 22,800,000 ft.
Wright Bros.	3	Drushel	North of Edna.	Jackson		Big gas well	May 7, '26	Gas was located more than year ago but not till recently was a well completed.
Houston-Gulf Gas Co.	1	Skelly		Refugio	2,050	351,000,000 ft. gas.	June 11, '26	Found a new gas sand. Other wells in field producing at 2,400 ft.
Barrett et al				Refugio	1,600	30,000,000 ft dry gas.	June 30, '26	Tapped second new gas sand within a month in Refugio.
Simms Oil Co.	1	Well	Blk. 16, Survey 81.	Jim Hogg	1,300-1,304	Swab'ed 500 bbls. 1st day	June 21, '26	Extended Randado field ¾ mile to N.
Detroit, Chicago & Marine City Syndicate		Lowe	Survey No. 1.	McMullen	410	1 bbl.		1st well completed last year. Recently discovered oil is 25% Ichthyol.

SIGNIFICANT COMPLETIONS DURING FIRST SIX MONTHS OF 1926—CALIFORNIA

Company Name—	Well No.	Location	S. T. R.	County	Sand Record feet	In'tl. Prod. Bbls.	First Prod. Date	Remarks—
Shell Oil Co.	No. 1	Vedder	Mt. Poso	Kern	1,922	165	5- 3-26	Discovery well.
Standard Oil Co.	No. 1	Anaheim	Richfield	Orange	3,210	426	6- 5-26	Field extended.
Milham Exploration Co.	No. 1	Conroy	Newhall	Los Angeles	2,143	....	.....	Dry hole.
Milham Exploration Co.	No. 2	Conroy	Newhall	Los Angeles	3,985	....	.....	Dry hole.
Bolsa Chica Oil Co.	No. 1	Hartman	Ventura Ave.	Ventura	5,434	850	6- 8-26	Field extended N.
Associated Oil Co.	No.101	Lloyd	Ventura Ave.	Ventura	5,235	1,500	4-15-26	Field extended E.
Bolsa Chica Oil Co.	No. 1	Kettleman	Kettleman Hills	Kings	9,038	5	bailed	Now deepening.
California Pet. Corp.	No. 1	Bixby	Long Beach ext.	Los Angeles	5,310	drilling	.....	Outlook discouraging
Sentinel Oil Co.	No. 1	Joughin	Chatsworth	Los Angeles	4,185	sigh.shg.	.....	Dry hole.
Marland Oil Co.	No. 1	Connolly	Hyde Park	Los Angeles	5,500	....	.....	Dry hole.
Shell Oil Co.	No. 4	Bryant	Seal Beach	Orange	4,897	....	.....	Dry hole.
Shell Oil Co.	No. 1	Bryant	Seal Beach	Orange	4,620	....	.....	Dry hole.
Shell Oil Co.	No. 2	Bryant	Seal Beach	Orange	6,139	....	.....	Dry hole.
Marland Oil Co.	No. 1	Williams	Cat Canyon	Santa Barbara	4,172	120	5-21-26	Deep zone drilling.
Gale, Hoyt (Gulf Oil)	No. 1	Beardsley	Cararillo	Ventura	5,398	....	5-21-26	Dry hole.
Gale, Hoyt (Gulf Oil)	No. 2	Beardsley	Cararillo	Ventura	3,967	....	5-21-26	Dry hole.
Chicksan Oil Co.	No. 1	Robinson	Coyote	Orange	4,240	150	5-12-26	Extension well.
Union Oil Co.	No. 1	McNally	La Mirada	Orange	5,608	....	.....	Dry hole.
Chanslor-Canfield-Midway Oil Co.	No. 1	Sentinel	Delano	Kern	3,874	....	.....	Abandoned, granite.
Union Oil Co.	No. 1	Tuffree	Richfield	Orange	5,317	....	.....	Dry hole.
Marland Oil Co.	No. 1	Bixby	Seal Beach	Orange	5,466	....	.....	Not commercial.
Shell Oil Co.	No. 1	Menchago	Brea Canyon	Orange	2,702	....	.....	Dry hole.
Standard Oil Co.	No. 1	S. F. Land	Kettleman Hills	Kern	5,541	....	.....	Dry hole.
Associated Oil Co.	No. 2	Vickers	Inglewood	Los Angeles	2,986	1,500	3-25-26	Deep zone
Petroleum Securities	No. 9	Cone	Inglewood	Los Angeles	2,945	250	2-10-26	Deep zone
Continental Oil Co.	No. 1	Kraemer	Richfield	Orange	4,511	200	3-20-26	Extension well.
Fresno-United Oil Co.	No. 2		Raisin City	Fresno	5,481	....	.....	Dry hole.
Petroleum Securities	No. 1	Palos Verdes	Palos Verdes	Los Angeles	2,530	....	.....	Dry hole.
Standard Oil Co.	No. 2	Rass	Midway-Sunset	Kern	5,162	190	3- 1-26	Deep zone
Main Oil Co.	No. 2		Wasco	Kern	5,276	....	.....	Idle.
General Pet. Corp.	No. 1	Oschener	Kettleman Hills	Kings	6,435	....	.....	Dry hole.
United Oil Co.	No. 1	Slayter	Elk Hills	Kern	5,447	....	.....	Dry hole.
Bandini Pet. Co.	No. 4	DeBaker	Bandini	Los Angeles	4,140	....	.....	Dry hole.
Standard Oil Co.	No. 1	Plevan	Santa Ana Gardens	Orange	5,219	....	.....	Dry hole.
Shell Oil Co.	No. 1	Von Schriltz	Talbert	Orange	5,114	....	.....	Dry hole.
Pan American Petroleum	No. 45	Solandino	Casmalia	Santa Barbar	5,300	....	.....	Deep test—dry.
Stahl, C. C.	No. 1	Winger	Downey	Los Angeles	4,890	....	.....	Dry hole.
Gillette, King	No. A1		Midway-Sunset	Kern	1,055	25	1-20-26	Extension well.
Pan Am. Pet. Co.	No. 2	Pacific Southwest	El Segundo	Los Angeles	4,000	....	1-20-26	Dry hole.

SIGNIFICANT COMPLETIONS IN ARKANSAS DURING THE FIRST 6 MONTHS OF 1926.

Company Name—	Well No.		Location	County	Sand Record	I.P	Comp. Date	Remarks—
Norris et al	1	Perdue	4-17-13	Union	2,050	Dry	1- 4	
J. D. Reynolds	1	Smith	13-15-17	Ouachita	2,257	Dry	1- 4	
Gulf Refining Co.	1	Freeman	31-15-13	Calhoun	2,865	S.W.	1- 6	
Humble O. & R. Co.	1	Edwards	26-17-28	Miller	1,449	Dry	1- 4	
Russell and Kent	1	Emerson	7-19-19	Columbia	2,927	S.W.	1- 8	
Tarver et al	1	Swafford	14-11-25	Hempstead	2,980	Dry	1-11	
Rovenger Oil Corp.	1	Dumas	9-17-16	Union	2,071	77	1-18	Lisbon wildcat.
Thurman et al	1	Fienniken	17-16-15	Union	3,024	Dry	3- 6	Smackover deep.
Miles et al	1	Miller	35-17-16	Union	2,935	250	4- 4	El Dorado extension.
Clark and Melat	1-A	Saxon	4-16-16	Union	3,003	Dry	3-30	Smackover deep.
Magnolia Pet. Co.	1	Johnson	3-15-21	Nevada	4,600	Dry	4- 6	Rank wildcat.
Arkansas F. O. Co.	1	Red River	18-19-24	Lafayette	2,790	80	3-20	Blowing with air.
Long et al	1	White	17-17-16	Union	2,111	Gas	4-27	Lisbon extension.
Reliance Drilling Co.	1	Dumas	10-17-16	Union	2,320	Dry	4-21	Lisbon wildcat.
McGaha et al	1	Haney	11-17-16	Union	2,586	Dry	4-26	
H. L. Hunt	1	Swilley	26-16-16	Union	2,478	300	5- 3	Smackover extension.
Magnolia Pet. Co.	1	Calion	29-15-14	Calhoun	4,460	Dry	5-16	Hole junked.
Arkansas F. O. Co.	3	Allen	18-19-24	Lafayette	2,782	150	6-10	Pumping.
H. M. Harrell	2	Moline	17-12-17	Ouachita	1,890	Dry	6-19	
S. S. Hunter est.	1	Dalton	21-15-19	Ouachita	1,542	Dry	6-18	
J. D. Reynolds	1	Ratch & Cartier	2-14-18	Ouachita	2,520	Dry	6-20	
Zing et al	4	Womack	10-14-21	Nevada	1,248	Dry	6-15	
J. P. Kelly	1	Mitchell	20-17-16	Union	2,174	10	6-11	Lisbon extension.
Natural Gas & Fuel Corp.	1	Carey	17-16-15	Union	2,201	Dry	6-16	

XUM

BACKING UP THE FIELD PLAY

THAT WILDCAT JOB

Out in the "sticks" . . . on the plains . . . out beyond the beaten paths . . . goes the "wildcatter." On his tools and equipment are based his hopes for successful completion of the job.

If he is "ISCO" outfitted, he faces his job with confidence . . . confidence in standard equipment, time tried . . . confidence in the source of additional supply, promptly supplied through service stations located nearby to make his task easier.

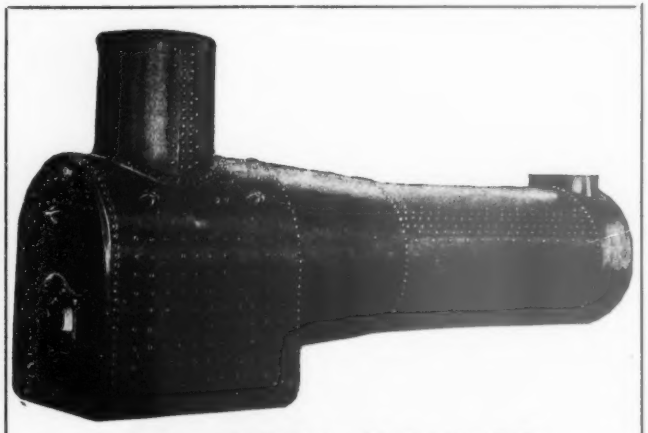
Standard tools and unfailing service have made us thousands of friends who recognize our sincerity of effort in "Backing Up the Field Play."

INTERNATIONAL SUPPLY CO.

TULSA INTERNATIONAL ISCO SUPPLY COMPANY OKLA.

DONOVAN BOILERS ARE CONSISTENTLY GOOD

CHOSEN for THEIR DESIGN and CONSTRUCTION WHEN QUALITY IS CONSIDERED



Donovan—A.S.M.E. Code—Oil Country Boiler

A. S. M. E. Code plus throughout. This means first, a minimum factor of safety of five.

Materials must be of the best. Every piece must have stood satisfactory physical tests and be of proper chemical analysis.

Design must be entirely safe and construction carefully checked. Even small details are subject to rigid inspection.

Workmanship must be high grade. This, too, is subject to inspection.

Close inspection goes on throughout the course of construction. Anything defective is rejected at once.

Upon completion, the boiler is subjected to a hydrostatic test of 150% of its working pressure. This is done in the presence of a competent inspector who is in the employ of a state or an insurance company. Unless the boiler is perfectly tight, correctly designed and built, it cannot be stamped with the code symbol.

All this is done in addition to the care we exercise ourselves to see that DONOVANS are always just right.

Manufactured by

DONOVAN BOILER WORKS, Inc.
Parkersburg, W. Va.
NEW YORK OFFICE
30 Church Street

FRICK-REID SUPPLY COMPANY
Mid-Continent Distributors

GREAT NORTHERN TOOL & SUPPLY CO.
MIDLAND IRON WORKS
Montana Distributors

All Leading Supply Houses Throughout the Eastern Fields handle

DONOVAN QUALITY PRODUCTS

None Better

SEISMOGRAPH AND OTHER METHODS USED FOR LOCATING STRUCTURES

By Dr. A. C. Heiland

It has been known since the middle of the past century that with a seismograph recording a natural earthquake at a certain distance from the origin, three impulses are obtained one after another. These impulses are originated by three different kinds of elastic waves which arise whenever any solid substance is affected by a sudden shake and which have different speeds. The quickest waves are the longitudinal, a little slower are the transversal which run directly through the earth. These waves reaching the earth surface give rise to a third kind, the surface waves which have the greatest amplitude and therefore the most destructive forces. Suppose we know the time which is spent by a longitudinal elastic wave for its run from the origin to one station and compute at what time this wave were due at a second station, which is, for instance 5,000 miles distant, we shall find that actually the earth wave reaches the second station earlier than it should be expected. This leads to the conclusion that the earth wave on its way to the second station was traveling through deeper and more elastic formations through which it could pass faster. Computations based on this fact, especially those of Wiechert, have led to an exact analysis of the interior of the earth and served to prove alterations of its physical properties at various depths.

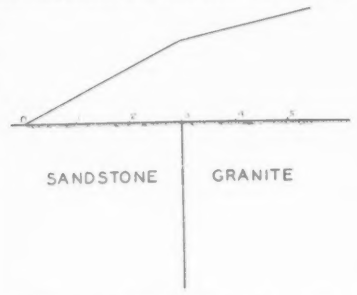


Figure 1—Seismic travel-time curve above a vertical fault-line.

About 15 years ago, the Russian prince B. V. Galitzin as well as Von dem Borne suggested the use of different speeds of propagation of seismic waves through the upper strata of the earth for the investigation of the subsurface structure. L. Mintrop experimented with artificial earthquakes which he produced first by means of falling masses, later by explosions and evolved a very handy outfit for the field which is at present mostly used in the United States. The device used by him consists of a seismograph and the photographic recording arrangement. The seismograph measures the vertical component by means of a lead ball fastened on a horizontal plate spring. The vibration of this sphere is magnified by a long lever and transmitted by friction to a rotary mirror the motion of which is recorded photographically. As far as I know Mintrop measures the speed of the fastest (the longitudinal) waves which give the first impulse in the seismogram. In order to measure this speed the instant of blasting the dynamite must be known. This moment is transferred to the recording apparatus either by means of electric line or is computed from the speed of the sound waves recorded after the seismic waves.

Similar devices for measuring the vertical component of vibrations have been constructed by Doctor Ricker and the geophysical staff of the Humble Oil Co.

In Practice

In order to save dynamite and avoid useless damage, several seismographs are set up in practice in lines at right angles, the shooting being done at only one place. For this reason it is practical to separate the recording apparatus from the seismograph and to have the oscillations of the pendulum recorded electrically by a common recording device.

About 20 years ago. W. V. Galitzin published a galvanometric method as applied to large seismographs and some years later Grumnach designed a similar apparatus for recording rock vibrations. The principle of the galvanometric method is based on the fact that a coil is connected with the pendulum which swings between the poles of a strong magnet. Therefore electric currents are induced in the coil which are greater the faster the pendulum swings and the direction of which alters according to the reversal of the oscillations. The inductive currents may be transmitted from several seismographs to one place where a certain number of oscillographs record the currents photographically.

This principle of Galitzin is applied in this country by McCullom. Karcher, Rieber and Eckardt for their seismographs being used mainly for oil exploration. As far as I know also with the galvanometric apparatus of the mentioned types only the vertical component of the vibrations and only the impulse of the longitudinal waves which arrive first is measured. As long as nothing more is required from a seismograph than to record the instant of a vibration, there are much simpler apparatus for transmitting such an impulse to common recording arrangement. For instance a very sensitive microphone or a seismograph designed by Grumnach would do the same. The latter consists of a horizontal bar turning round a horizontal axis at one end and kept horizontal by means of a spiral spring, while on the other end the weight itself is attached. When a seismic impulse reaches the instrument the lever moves up or down vertically, thereby making an electric contact. The electric current closed by the seismograph may put into action any kind of mechanical or electrical recorders and there is no need

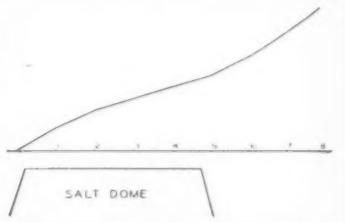


Figure 2—Diagrammatic travel-time curve computed for a salt dome.

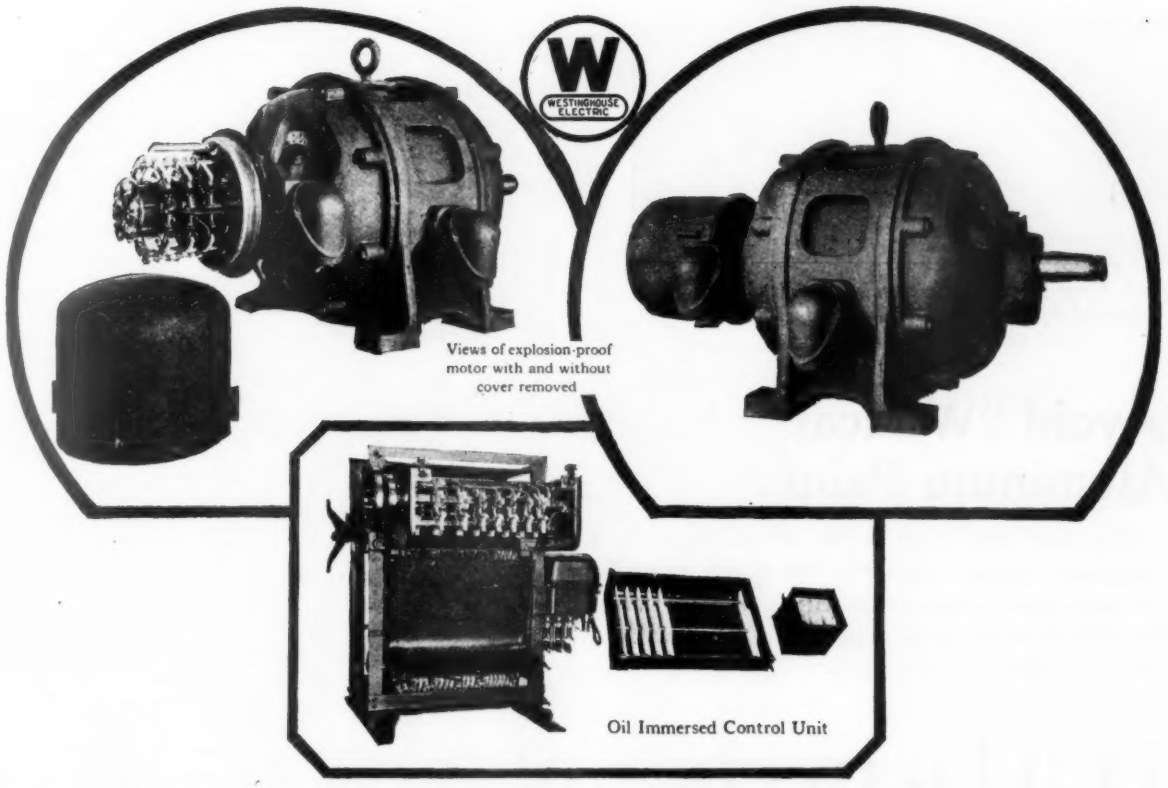
for a sensitive galvanometer. For the simple determination of speeds only, the galvanometric method is rather complicated and expensive; however its application is worth while if more detailed examinations of the arriving earth waves, for instance with reference to period, different components, etc., are desired. Such complete investigations facilitate the interpretation of the results in some cases of complex structure.

Simple Illustration

In order to show how it is possible to get information about the subsurface conditions by means of seismic methods, the following simple case may be considered (Figure 1).

Suppose a vertical fault which separates a large granite block from the adjoining strata, for instance sandstone, and which is not recognizable at the surface. It is desired to find the exact location by means of the seismograph. Five seismographs, two hundred meters apart, may be set up in one line perpendicularly to the strike of the fault line and at the point zero a charge of dynamite may be blasted. Suppose the speed of propagation of seismic waves is 1,000 meters per second in the sandstone and 2,000 meters in the the granite, then the tremor has to travel from point zero to point one in 0.2 seconds; the point two is reached 0.4 seconds after the explosion and point three within 0.6 seconds. In order to travel from the point three to the point four, the tremor has to run only 0.1 second, since the speed of propagation is now

A previous article by Doctor Heiland on geophysical methods was published in The Oil and Gas Journal of July 22, Page 30.



Where Explosive Gas is Present

Westinghouse Explosion-Proof Motors Serve Safely

ALL contacts on collector rings and brushes are totally enclosed by an explosion-proof cover—all contacts on controllers are oil immersed. No source of sparking is open to the air.

In oil refineries where by-product power is available, Westinghouse variable speed motors for your pump drives are the most economical and by far the most satisfactory form of drive available.

Here's the way some refineries do it:

A Westinghouse non-condensing steam turbine generator unit is used as a reducing valve between the high-pressure boilers and the process steam header. Steam from this header is used in various processes throughout the refinery. These refineries must have the steam for process purposes, so the power is virtually a by-product, permitting operation of pump motors at very low cost.

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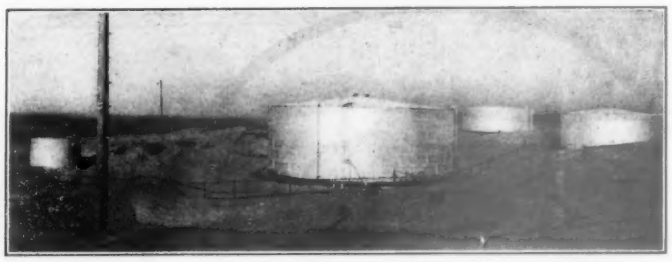

This tank farm is near the seashore. Bitulumin is not affected by salt air or any gases incident to oil operations.

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Q: Why? A: Because labor cost is the same, regardless of what paint you use; because there is too much at stake in preventing evaporation losses to justify experimenting with Aluminum Paints that cannot point to the "proved ground" of enduring performance, like—

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2,000 meters. That means the wave reaches point four 0.6 plus 0.1 or 0.7 seconds after the explosion and point 5 within 0.8 seconds. Plotting these travel times the curve is obtained illustrated in Figure 1. The fault is indicated by a break of this curve at point 6.

A similar shape of the travel time curve results in a case which can not be solved by means of the torsion balance which is, however, a good subject for seismic measurements. If, for instance,

Figure 3—Field balance for measuring for measuring the magnetic vertical intensity.

beneath a stratum of shale a layer of lime is found, then it will happen at a certain distance from the point of explosion, that the waves making a detour through the deeper strata, where they can run faster, arrive at the seismograph earlier than the waves taking the shorter way from the point of explosion towards the seismograph directly through the upper beds. This results in a break of the travel time curve. Although both structures mentioned result in a similar travel time curve, it is not very difficult to separate them in the interpretation if the explosion is made at two different places.

Unfortunately so far actual results of seismic measurements above salt domes or other structures have not been published so that I have to confine myself to give in Figure 2 only the course of the travel time curve which may be expected theoretically above a salt dome.

According to previous publications on the Gulf Coast three salt domes have been discovered by the seismograph and have been proved by drilling. However, the actual number can be expected to be far larger, as presumed by Ricker.

Acoustic Methods

Several attempts have been made to locate structures by means of acoustic methods. The principle of these measurements is only a little different from the seismic method since also elastic waves are being used; but their origin and therefore their period and amplitude is different. The methods now in use are quite similar to those which were used during the war to find the location of enemy guns and submarines; same processes are also in use resembling the arrangement employed by Behm in Kiel, Germany, with his "Echolot" which is in frequent use aboard of ships to determine the water depth. With the acoustic outfits used for prospecting, either a single sound is produced and, similarly to the seismic method, the speed and path of the directly running, reflected or refracted sound waves is measured by means of exact time determinations, or a continuous periodical sound is produced and corresponding conclusions are drawn from the alteration of the noise at the microphone receiver. However, it is not known so far that any practical success has been obtained with acoustic methods as applied to prospecting for oil, presumably because of the too small energy of the source of sound.

Magnetic Method

We now proceed to a description of the third method which may be used indirectly for the locating of oil and gas, the magnetic method. Generally the range of its practical application is more limited than that of the gravitational and seismic methods, because contrasts of the magnetic susceptibility in the geological formations, which could be measured at the surface, are by far less frequent than contrasts in specific gravity and elastic properties. The magnetic method, however has the advantage that the instruments used are very small and light and therefore magnetic measurements can be made quickly and cheaply.

It is generally known that there exists a magnetic field around the earth. The magnitude and direction of this field of force may be determined partly or as a whole at the surface of the earth. The direction of the horizontal component of the earth's magnetic force is determined by means of the so-called declinator, and the direction of the total force by the inclinator, or, using inductive electricity, by means of the rotary inclinator. The magnitude of the earth's magnetic force is then determined by a comparison either with the strength of known magnets, or with the force of gravity. For practical purposes it has been found most appro-

Figure 4—Field balance for the horizontal intensity.

priate to measure the magnetic vertical—and horizontal intensity.

Dr. Ad. Schmidt of Potsdam, Germany, has recently designed for the measurement of these two latter components two very compact field instruments which are manufactured by the Askaniawerke, Berlin, Germany. Figure 3 shows the local variometer or field balance for the vertical intensity and Figure 4 the field balance for horizontal intensity. On a tripod is mounted a rectangular casing in which a magnetic needle-system rests upon quartz bearings by means of a quartz knife edge. The center of gravity of this system does not coincide with the center of motion so that the force of gravity counterbalances the magnetic force in the area under survey where

(Continued on Page 80-B)

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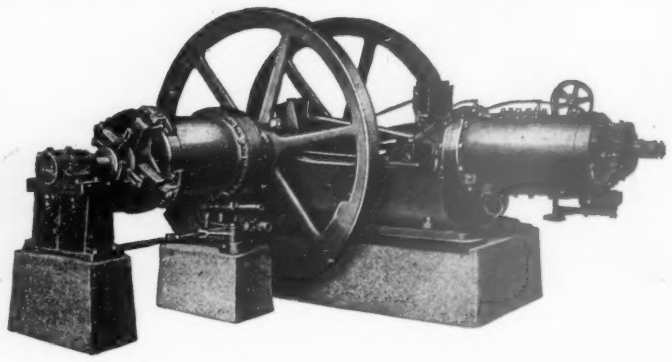

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CALIFORNIA FIELDS

(Continued from Page 44)

the lower zone at 4,828 feet. Harry Failing's No. 1 Cerritos, also a deepened project, was good for 381 bbls. of fairly clean 21.8 gravity oil from 4,785 feet. The Star Petroleum's No. 2 Colby Cerritos, which was carried direct to the deep sand and finished at 4,810 feet, was good for only 110 bbls. on the beam. The small initial pumping and the fact that the output is cutting approximately 10 per cent, seems to indicate bottom water has been encountered, although this has not been absolutely determined.

The United Oil Co. is making preparations to abandon No. 1 Cook because of mechanical trouble at 4,481 feet and is also consigning No. 1 Bixby to the salvage department as unproductive at 5,325 feet. The California Petroleum will also probably file an abandonment notice on a deep well in the near future, unless something favorable develops very soon in No. 1 Bixby, a northeast outpost at 5,400 feet. The Western Drilling & Production Co., affiliated with the Western Oil & Refining Co., is building a rig in the extension for a new well on the strength of the showings made by H. L. Whiston's No. 6 Cerritos, a recent completion at 605 bbls., and J. E. O'Donnell's No. 49 Cerritos, which came in with an initial daily production of 895 bbls. A check of the various drilling and deepening projects in the extension indicates that we may anticipate the completion of some 10 or 15 additional wells during the next month.

The San Martinez Oil Co., as a result of the recompletion of No. 4-A Booth, has focused the attention of operators on the southeast slope of Signal Hill and this well may result in some little new work. The usual amount of drilling in the northwest extension has diverted attention from the older section of the field for several months, during which time the San Martinez has been patiently at work. No. 4-A Booth was brought in about 10 days ago but the actual completion data has only just been made available. It is unknown just why the company held up this information, unless its geological department was not absolutely sure of what had been found.

It has been generally rumored that the company picked up a new deep sand at 5,213 feet but geologists familiar with the various zones in the Long Beach field do not agree with this deduction. The well was actually carried down to 5,213 feet and finished with a 3-inch liner, approximately 350 feet of which was perforated. It registered an initial flow of 360 bbls. upon being recompleted, the oil testing 26.8 degrees and showing a cut of 2 per cent. The Julian Petroleum holds a 7½-acre lease offsetting the holdings of the San Martinez and work has already been started on a new well to be designated as No. 1 Peacock. The city of Long Beach began collecting royalty on a new well, No. 19 Municipal, finished several days ago by the A. T. Jergins Trust. This new producer, drilled to 3,160 feet and finished with a 6¼-inch perforated liner, was good for 200 bbls. daily on a compressor.

Inglewood

The Standard increased its daily production 355 bbls. as a result of the completion of No. 31 Baldwin Cienega in the Inglewood Field, the oil from this new well, which was carried down to 2,290 feet, testing 19.1 degrees and showing a cut of 10 per cent. Operators in this district are only running three strings of tools at present and it is doubtful if any new work will be undertaken until development of the deep zone is started. The Shell's No. 34 Reyes, a new well in the Dominguez district, came in flowing 291 bbls. of 29.6 gravity oil from 4,140 feet, the oil flowing through a ½-inch bean under a pressure of 360 pounds. As is the case at Inglewood, work in this area is being held down to a minimum.

The York-Smullen Drilling Co.'s No. 1 Blakeboro-Simmons in the Rideout Heights section of the Whittier Field proved somewhat of a disappointment, although it is, nevertheless, a commercial producer. Instead of coming in registering an initial production of 200 bbls., it only tanked 70 bbls. daily of clean 20.9 gravity oil from 2,357 feet. The Standard recompleted No. 59 Baldwin at Montebello early in the week after redrilling and deepening it to 4,480 feet. When put on the beam the well was returned to production pumping 140 bbls. of clean 21.8 gravity oil. The company's next producer in this area should be No. 68 Baldwin, now drilling ahead at 3,465 feet.

New Drilling

The completion of several fairly large flowing wells in the Santa Fe Springs Field during the past few weeks is being reflected in late development reports. It will be recalled that the General Petroleum finished No. 20 Santa Fe, a new well, two or three weeks ago flowing 692 bbls. daily from the Bell zone at 3,828 feet and that the Bandini Petroleum brought in No. 6 Off flowing 510 bbls. daily from the same sand. The Associated's No. 1 Green, also a recent completion, registered an initial daily production in the Meyer zone of 1,155 bbls. from 4,720 feet.

These three wells are primarily responsible for most of the new work getting under way and it is quite possible there will be several more good producers finished during the next 90 days. The General Petroleum is erecting four new rigs for Nos. 21, 22, 23 and 24 on the Santa Fe lease and spud is contemplated in the near future. The Standard is hauling in material for No. 19 on the South Whittier Community property offsetting the Bandini Petroleum's Off lease, and this rig will begin taking shape within a few days. H. J. Gross and J. H. Rhea have leased that part of the Butterworth property recently released by the Associated and expect to make a bid for Bell sand production. This new work will undoubtedly result in the daily field production remaining around the 50,000-bbl. mark for a few months, instead of registering a decline as has been anticipated.

Richfield

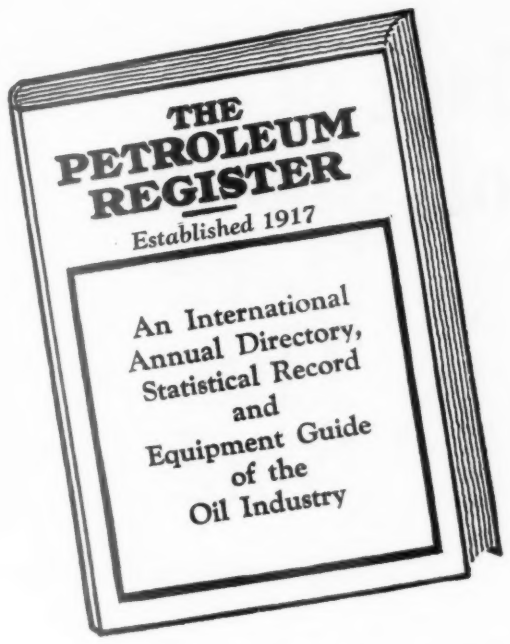
The General Petroleum's No. 7 Thompson in the Richfield district, which came in last week, is flowing 783 bbls. of 23.5 gravity oil from 4,620 feet, the hole being finished with a 5⅞-inch oil string carrying 510 feet of perforated. In addition to this completion, the General Petroleum started work on a new hole, No. 1-A Thompson, which will replace No. 1 Thompson, an abandoned upper sand well. The company is running three other strings of tools in this district, the individual wells being No. 6 Stern, No. 2-A Tonner and No. 12 Tonner, all in proven territory. The Union, the largest operator in the Richfield district, is building a rig for another well in this area, No. 5 on the J. W. Newell property, and is making preparations to finish two new wells within three weeks.

Two new locations were staked in the Fullerton Field, both by the Shell, and it is believed material will be on ground shortly. The two wells flagged were No. 5 Fisher and No. 2-A Puente. When these two new drillers are spudded in, the Shell will have seven drilling projects on its development chart. The Union is running six strings of tools in this field, four on the Stearns lease and two on the Olinda property, work on the latter acreage being somewhat of a wildcat nature.

Ventura

There was one well finished in the Ventura Avenue Field during the past seven-day period, but a check of the various drilling projects indicates that one or two more should be on production within a comparatively short time. The new well added was No. 18 Lloyd of the Associated, which came in making 1,390 bbls. of clean pipeline oil from 5,912 feet, the hole being finished with a 4¾-inch oil string. This well, in the southern part of the field, makes this particular area look rather favorable for further work and it is reported the Petroleum Securities is negotiating for the property on which is located the California School for Girls, a state institution.

The Associated has one or two promising looking wells in this field which give evidence of early completion. No. 33 Lloyd at 5,311 feet and No. 11 Lloyd



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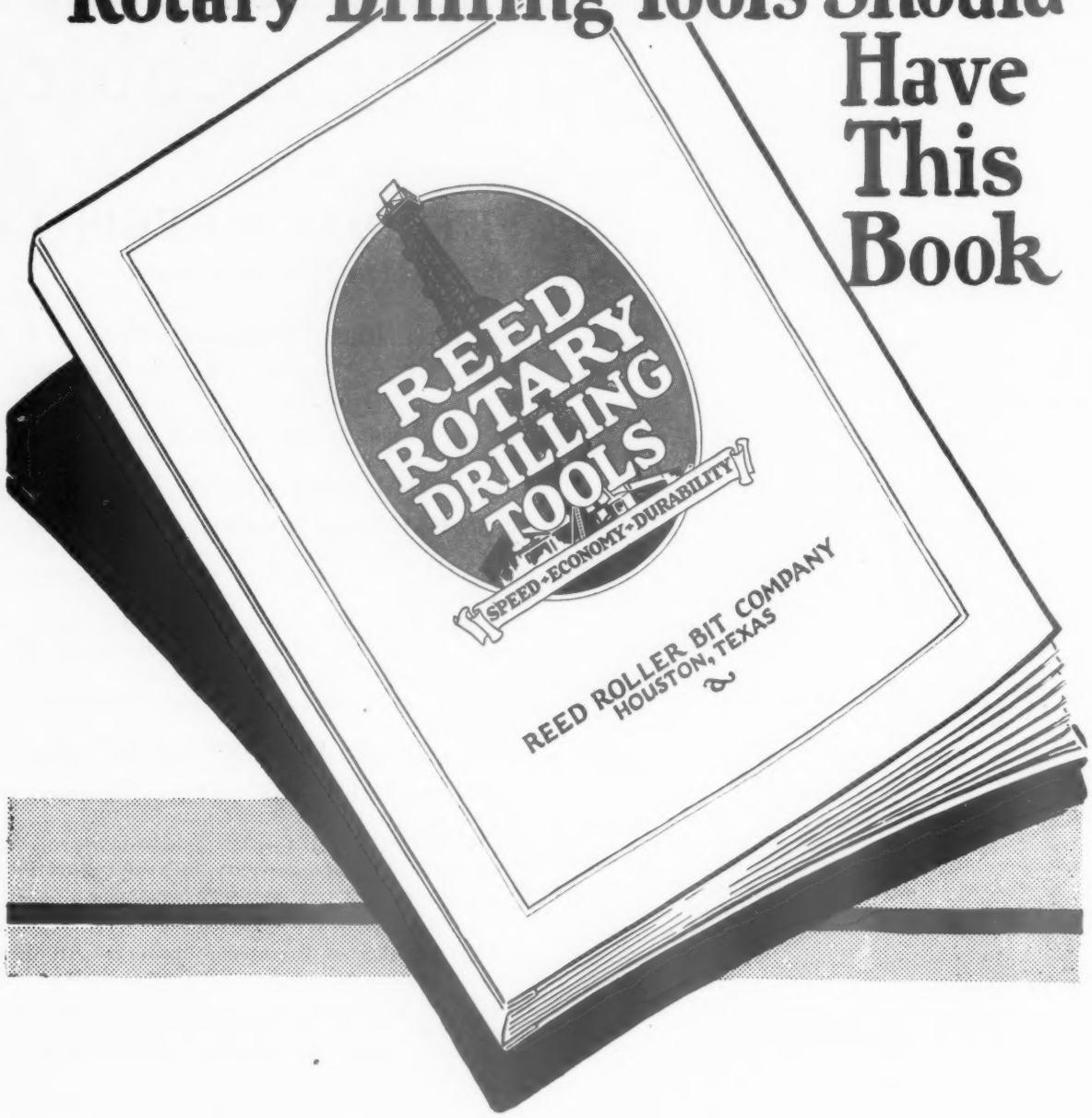

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at 5,236 feet, the drillers in question, are expected in soon. The Shell expects to finish three wells within 30 days and their aggregate initial daily production will probably be somewhere around 5,000 bbls. The company's No. 22 Gosnell in the western part of the field should be the first to come into production, as a 5⅞-inch combination string was run in and landed yesterday at 6,120 feet, 5 feet off bottom. This well, the deepest yet drilled, is about 10 feet lower stratigraphically than any other producer in the field and, as the depth indicates, is located at quite an elevation.

No. 11 Gosnell, which is being reamed at 5,400 feet, will probably also be tanking oil within two weeks. On the Edison lease the company has a 5,000-foot hole in No. 8 and, barring mechanical trouble, this well should follow No. 11 Gosnell into production. The company cemented a string of 8¼-inch in No. 12 Taylor at 4,578 feet and this well, which is approximately 1,200 feet west of No. 10 Taylor, now flowing 750 bbls. daily, will be carried down to the lower sand.

The Bolsa Chica Oil Co. is erecting a rig for No. 2 Hartman, west of its initial completion on this property, and will probably also spud in another hole, No. 3, on the same lease soon. The Petroleum Securities is drilling ahead rather quietly and will probably be in a position to make a test of No. 1 Willett in the southern part of the field within 30 days.

Midway-Sunset

The Obispo Oil Co.'s No. 11 in the Maricopa Flats, Section 32-12-23, came into production during the early part of the week flowing at the rate of 1,300 bbls. a day but sanded up three hours after the initial flow. This well, but a short distance away from No. 6, the first producer in this area to get production from the brown shale, was brought in from 3,900 feet and it is believed it will be back on production again within a few days as the crew immediately resumed work. The Union picked up the top of the brown shale in No. 1 Houchin, an offset to the Standard's No. 2 Rass, and a string of 6¼-inch has been landed and cemented at 5,265 feet. The Standard, by the way, is preparing to start another well, No. 3, on the Rass lease, and it will be spudded in before the close of the week.

The Honolulu Consolidated Oil Co. finished a small pumper at Midway in Section 4-32-24, the maximum output from this new well, No. 11, being 58 bbls. of 25.1 gravity oil from 3,556 feet. The Union finished drilling No. 15 Federal at Elk Hills in Section 26-30-24, and it will probably be good for somewhere around 250 bbls. a day on the beam. George Mapes and associates have leased 722 acres of the Cuyama ranch, 10 miles southwest of Maricopa, and are making preparations to start work on the first hole. The general formation, numerous oil seepages and location of the property makes the undertaking rather interseting

The Shell has returned No. 1 Vedder to production at Poso Creek after plugging back from 3,130 feet to 1,979 feet and the well is consistently pumping 185 bbls. daily. The shortage of water in this area is still holding up work and the necessity of drilling 1,000-foot water wells is not any inducement to smaller operators. The Barnsdall has several rigs up at various points and it is believed practically all of them will be under way within 30 days. Fresh water is available around 1,000 feet and, while surface water can be produced from around the 500-foot level, it is of no value because of the high sulphur content.

The Vedder brothers, D. G. and Richard, leased another 180 acres of potenial oil land between the Kern front and Poso Creek during the past 10 days and are negotiating for another 140 acres in Section 30-26-27. The Buchner Brothers have cemented their test in Section 22-26-28 at 600 feet and are contemplating another well either in Section 36-26-28 or Section 1-27-28, northwest of the Shell's discovery. It is reported that the Marland, Barnsdall and Vedder Brothers will join interests in a new test to be drilled in Section 1-28-28, 7 miles southeast of the Shell's No. 1 Vedder, where all three operators have considerable holdings.

California Wildcats

The most important wildcat in California at present is No. 2 Bixby of the Marland at Seal Beach because of the fact that this test may open up a lost field at that point. The word lost is used advisedly as it will be recalled that this area has been discovered twice already only to be lost again when the two wells went to water. The Shell was the first to secure production and this well led to the drilling of three others on the Bryant lease all four being later abandoned as uncommercial. The Marland then came along and rediscovered the field only to lose it again when its No. 1 Bixby went to water and was later abandoned as a duster after being deepened in search of another sand. The Marland well came in flowing approximately 500 bbls. daily before the water trouble developed. The company immediately started a second test and it is this well that is being watched so closely.

The two Smith brothers, not the cough drop boys, have a rig up about 2½ miles southeast of El Segundo in an area that has been looked upon as quite promising and work is expected to get under way within two weeks. Several wildcats in that general area have logged oil and gas in the past and it is believed this new test will bear watching. There was no change in the status of any of the wildcats in the Manhattan-Hermosa Beach area and it looks as though this immediate territory will be removed from future consideration within a short time.

The triangulating detachments which the Shell is maintaining in many parts of the San Joaquin Valley have just finished at Rosedale and are now working south toward San Emigdio. Another corps is working in Kings and Tulare Counties and a third detachment is concentrating in the Kettleman Hills area north of the Lost Hills Field. The dynamite crew goes ahead to prepare the way for the torsion balance crew and the flag setters, who follow some time later. The Shell is spending considerable time with the seismograph and torsion balance but may perhaps come out ahead in the long run in California.

SOUTHWEST TEXAS

(Continued from Page 36)

covery well on the west and a west offset to The Texas Company's No. 1 which offsets the discovery well on the north. Morgan-O'Hern-Seacord are rigged up on No. 1 Webster and ready to spud in 60 feet south and 300 feet west of the discovery well. Morgan Brothers took over the Daniels & Best test at 1,600 feet in the southeast corner of the northeast 10 acres of the northwest quarter of the northwest quarter of 684 and are waiting for water. Morgan Brothers are moving in on Survey 679 in the north 20 acres of the northwest quarter of the southwest quarter. Moody Oil Corp. is rigging up in Survey 688 2 miles southwest in the southwest quarter of the northwest quarter. Murchison & Fain are rigging up in the southeast corner of the 20 acres in Survey 684 next west of the 20 in the northwest corner of which the discovery well is located. Hazlett-Simmons are shut down below 1,500 feet in No. 1 Barnsley in Block 9 of Survey 268 north and west of the discovery well and have a derrick up in Block 11 of Survey 335.

Houston Oil Co. is below 500 feet in No. 1 Barnsley in Block 15 of Survey 268 less than half a mile north of the discovery well. Wolcott has the derrick up in Block 51 of Survey 680 about three-quarters of a mile northeast of the discovery well. Killam & Winch are down 2,300 feet in Block 12 of Survey 336 a mile north of the discovery well. They have passed the last gas sand and within a few days drilling should be in the 2,600-foot horizon that will tell whether they get a gas well, an oil well or a dry hole. Brashara-Neal have made a location in Block 8 of Survey 689, 2 miles southwest of the discovery well. Poor Boy Oil Co. has erected a derrick in Block

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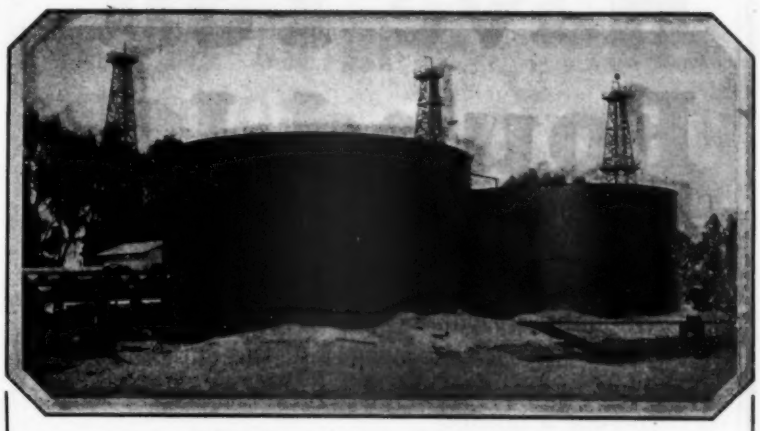

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22 of Survey 335, located 150 feet from the south and west lines and a mile northwest of the discovery well.

Randado Field—Jim Hogg

Grayburg Oil Co. completed its No. 2 Weil in Jim Hogg County in the Randado Field, a 300-foot offset to the east of the Simms well which extended the pool three-quarters of a mile to the north. Grayburg's well is in the southwest corner of Block 15 of Survey 81 and the Simms well that resulted in the extension is in the southeast corner of Block 16 of the same survey. Grayburg's well was previously reported as No. 1 but is carried by the company as No. 2 due to a wildcat dry hole drilled a mile or more from the pool a year or more ago. Grayburg is rigging up No. 3 Weil located 300 feet north of No. 2 and rigging up on No. 4, located 300 feet north of No. 3, these two locations offsetting locations by Simms Oil Co. Simms' No. 3, located 300 feet north of its No. 1 and 450 feet from the south line and 150 feet from the east line of Block 16 of Survey 81, offsetting Grayburg's No. 3, is on the sand and should be in by the last of this week. Moody Oil Corp.'s No. 9 Palacious drilled in and is bailing and looks like a good well. It is in Block 20 of Survey 291, located 476 feet from the east line and 150 feet from the south line. Johnson and others' (American Well & Prospect Co.) No. 7 Palacious set casing, located 650 feet from the south and 450 feet from the west line of Block 14 of Survey 291, and is ready to drill in.

Houston Gulf Gas is ready to drill in on No. 11 Palacious in Block 11 of Survey 291 located 550 feet from the west and 614 feet from the south line. Wheelock & Collins have the derrick up for No. 4 in Block 21, Survey 291, located 476 feet from the east line and 150 feet from the north line. Maddox and E. L. Smith Oil Co. are drilling on No. 2 Palacious in the north edge of Survey 291 near the Simms Weil No. 1 that extended the pool north, and they have a location for No. 3 Palacious on the south line of their 40-acre lease. Andrews Petroleum Co., which drilled a dry hole on Survey 267 a half mile or more west of the Simms No. 1 Weil, is preparing to move a rig to its lease in Survey 291 which practically offsets the Simms Weil well. Brashara & Maddox have a location in the northeast corner of Block 8 of Survey 81, a good half mile north of the Simms No. 1 Weil. Johnson and others are rigged up and drilling on the No. 8 Palacious in Block 14 or Survey 291, located 650 feet from the south and 750 feet from the west line and have the derrick up for No. 9 Palacious in Block 19, Survey 291, located 150 feet from the south and west lines. Magnolia has the derrick up for No. 8 Palacious in Block 6 of Survey 291, located 150 feet from the north and west lines and has location for No. 4 Palacious 450 feet from the west and 150 feet from the south lines of Block 10 of Survey 291. This No. 4 was previously erroneously reported as drilling. Magnolia's No. 6 Merchant State Bank is drilling at 2,085 feet in the northwest corner of Survey 415. It had a showing of gas at 1,233 feet, a few feet above the producing horizon in the field and another showing of gas at a little below 1,600 feet.

Henne, Winch & Fariss

In the Henne, Winch & Fariss Pool in Jim Hogg County the Magnolia Petroleum Co. is the only concern that is engaging in any activity. Magnolia is rigging up in No. 12 "B" Martinez in Survey 276 in the south end of the field and has locations made for Nos. 13 "B" and 14 "B" Martinez in the same section.

Kitselman-St. Albans

In the new pool over a mile northeast of the Henne, Winch & Fariss where Kitselman & St. Albans have proven up a production spot at a depth of around 2,150 feet, they are drilling at 1,800 feet in their No. 4 Holbien on a Texas Pacific Coal & Oil lease in Block 15 of Section 15 of the Holbien ranch; have set casing in their No. 41 Holbien in Block 41 of Section 11; are drilling below 1,500 feet in their No. 42 Holbien in Block 9 of Section 15, and coring ahead at 2,090 feet to find the sand in No. 43 Holbien in Block 9 of Section 15. Their new rigs are arriving and they will soon have eight rigs running in the field in addition to two big rigs that will be set up later in the summer for deep tests.

Somerset Field

In the Atascosa end of the Somerset Field, Witherspoon Oil Co. made a small well at 2,177 feet in No. 1 Tuerpe, more than a mile south of production in the Somerset Field. The well was not through the pay at that depth but caving necessitated setting casing. The rig is being moved to No. 2 location, about 2,400 feet southwest of No. 1. No. 1 is good for about 2 bbls. Schimmel Oil Co. is completing No. 1 Martinez, in the southwestern part of the Somerset Field and W. R. Hamilton has completed No. 12 Hughes in the southwest end, a little north of the line of production. Associated Petroleum Co. is drilling No. 6 Caruthers, located 399 feet west of No. 1.

Southton Field

In the Southton Field, in Bexar County, Rentex Oil Co is drilling No. 1 Southton Park, in the center of lot 43. George E. Ginter has completed No. 9 Cotton Mill test and is moving to No. 10, one location south of No. 9.

Luling Field

In the Caldwell County end of the Luling Field, Magnolia is drilling No. 3 W. Branyon, in the east end of the field on a lease acquired from the North & South. McDermott has completed a 140-foot derrick for North & South over No. 1 Kelley, which is in schist at 6,050 feet and is changing to heavier rig.

In the Guadalupe County end of the Luling Field, Magnolia on a North & South lease, is drilling No. 36 A. J. Baker in the H. Cottle Survey, 300 feet northwest of No. 15.

Medina County

Golden West has completed No. 6 Schmidt in the Ina Field 300 feet north of its No. 4 and is washing it. It will go on the pump this week and looks like an average well. Arnett Oil Co.'s No. 4 Nixon is ready to set casing and with appearances of making a good well.

CANADIAN FIELDS

(Continued from Page 38)

der an arrangement recently concluded with the Mill City Oils, Ltd. The well was uncapped and the water lowered by bailing to 3,200 feet depth, where a plug of dirt was found, which was later lifted 500 feet by gas pressure, releasing some oil. Preparations are being made to drill through this plug and clean out the hole before fishing for a couple of strings of tools lost at the bottom of the 4,327-foot hole.

New McDougall Segur Oil Co., LSD 14, Section 12-20 3w5, has set the 15½-inch casing at 992 feet and resumed drilling. Cooper-Nanton Oils, Ltd., LSD 2, Section 7-20-2w5, is at 1,950 feet and drilling for the 12½-inch casing, which will be set at 2,200 feet. Mid-Valley Oils, LSD 12, Section 5 20-2w5, has finished the cellar and has derrick timbers and some equipment on the ground. The test will spud in early in August. British Dominion No. 1, LSD 4, Section 5-20 2w5, is drilling at 1,125 feet. The 15½-inch casing will be run to 1,250 feet and kept close behind the bit to shut off a streak of caving formation expected around 1,300 feet. A slight gas seepage was struck just below the 300-foot level.

Advance No. 2, LSD 14, Section 20-19-2w5, is at 800 feet and drilling. Big Chief Oil Co., Section 5-20-2w5, is shut down around 1,200 feet. Calmont Oils, Ltd, LSD 2, Section 1-20-3w5, is at 300 feet and cementing casing. Dallas Oil Co.'s No. 1, LSD 11, Section 20-19-2w5, is at 1,900 feet and drilling. Home Oils, LSD 10, Section 2-19-2w5, is reported drilling at 1,570 feet. Highland Oils, Ltd., LSD 5, Section 5-20-2w5, is cementing casing at 200 feet. New Black Diamond Oil Co., LSD 1, Section 3-20-3w5, is drilling in the upper horizons.

Madison Oils, Ltd., LSD 8, Section 34-20 3w5, is reported rigged up ready to spud in, with an 84-foot derrick, standard outfit and spiral stem equipment.

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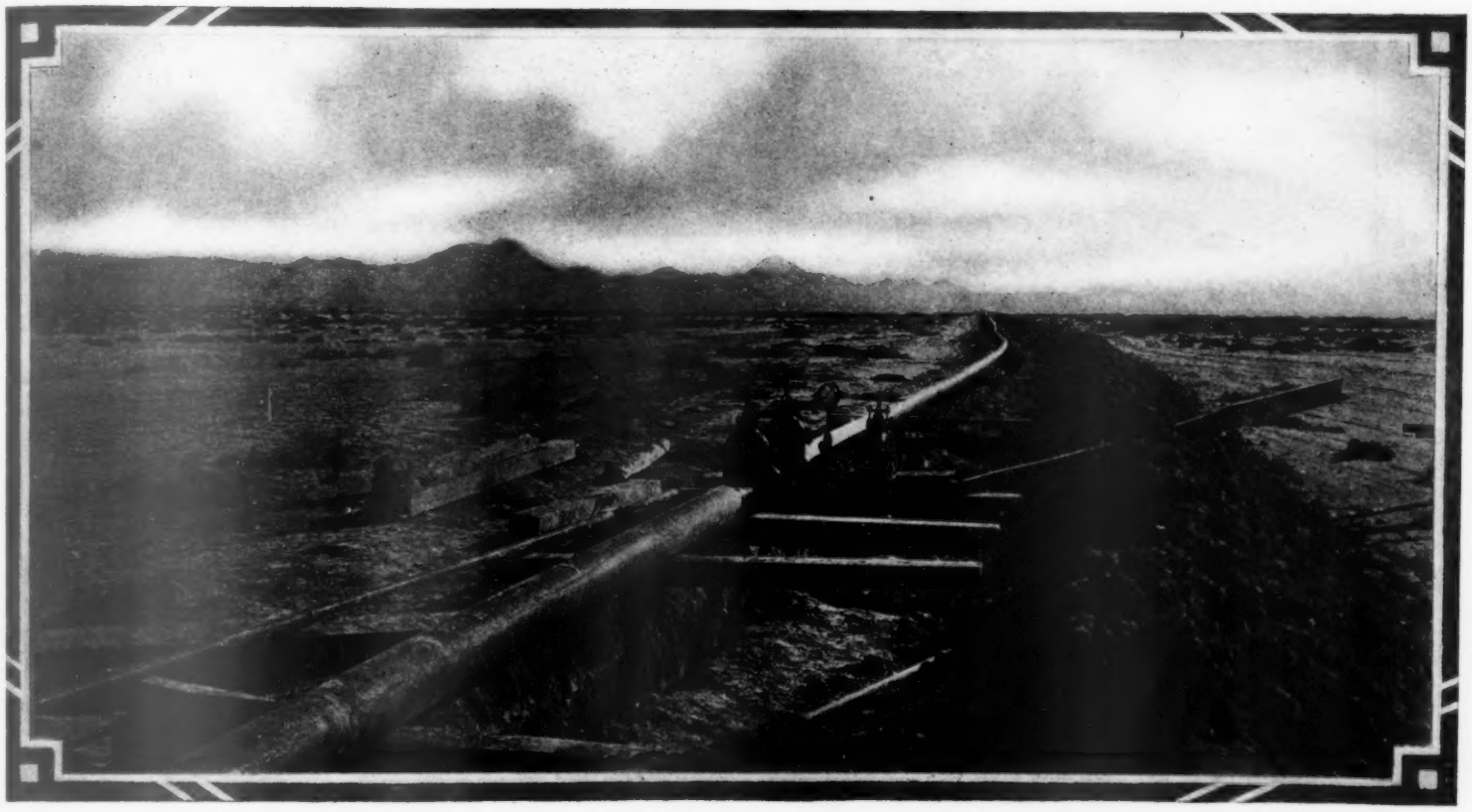

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In these places, (and they are found along practically all pipe line routes) corrosion is especially active. Here high maintenance and replacement expense will be inevitable unless pipe of more than ordinary rust resistance is used. Mere surface protection only partly meets the requirements of durability.

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Byers Pipe is made of the highest quality of wrought iron, and is produced today essentially from the same high quality raw materials and by the same careful methods of refining as were in use a century ago. The reputation of Byers Pipe rests on a sixty-year record of durability which in the Byers mills is being zealously guarded against cheapening processes which might be detrimental to quality of material.

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This is the first test in the extreme north end of the Turner Valley. Anglo-Dutch Oils, Ltd., has arranged to drill on a royalty basis on leases of the Capitol Oil & Natural Gas Co., and has spotted a test on the northwest quarter, LSD 8, Section 11-20-3w5, midway between the Illinois-Alberta and McLeod No. 2 well. The test will probably be drilled by contract. Anglo-Dutch Oils, Ltd., is incorporated under Dominion charter with 300,000 shares; directors being Lt. Col. J. P. Parks, Maj. P. A. Beveridge, Maj. Duncan Stewart, M. H. Staples, George H. Cherer.

Gol-Conda Oils, Ltd., LSD 13, Section 26 19-3w5, has camp built and is working on cellar. Derrick timbers are being moved to the site, and the test is expected to spud in about August 15. Dolomite Oils, Ltd., LSD 8, Section 1-20-3w5. has bunk houses built and some equipment on the ground. E. J. Cowles is head driller on this test. Sentinel Oils, Ltd., is bringing in a heavy duty standard rig for a new test. Coast to Coast Oil Holdings Co., of Vancouver, B. C., has spotted a test in LSD 8, Section 11-20-3w5. Okalta Oils, Ltd., has a location in LSD 1, Section 1-20 3w5, a half mile south of McLeod No. 2; a standard outfit will be used. Belgo-Canadian Oils, Ltd., is arranging for a lease of 100 acres of the Mill City Oils, Ltd.. holdings, comprising the east half of LSDs 14, 15 and 16, Section 4-19-2w5. The arrangement calls for 15 per cent royalty, $100 an acre out of production, the ultimate drilling of one well for every 20 acres, and the first well to be spudded in by December 1.

Mill City Oils, Ltd., held its annual shareholders meeting at Calgary recently. directors elected being John H. Braseth. Ad McPherson, Matt P. Johnson, M. P. Boyd and I. W. McArdle. The balance sheet showed assets valued at $194,200, these including leases in various fields, stock in British-Wainwright Oils, Ltd., and Ferdig Oils, Ltd., and cash account of $10,310. The company is not actively drilling, but its holdings are being developed by other companies on royalty, the Anglo-Dutch Oils, Ltd , in LSD 14, Section 4 19-2w5, while in Section 34-20-3w5 locations have been made by Madison Oils, Ltd., in LSD 8; Queen City Oil Co., LSD 6, and Seneca Oils, Ltd., in LSD 1. The company has acreage in other fields and may drill a test in the Wainwright Field.

Sheep Creek Area

In the Sheep Creek area, Duthill Oils, Ltd., has located No. 1 test some 12 miles west of Black Diamond, in LSD 8, Section 24-19-4w5, where it is estimated production will be reached between 2,500 and 3,000 feet. Drilling will commence this season. Officers of the company are: President, E. S. Tinney; directors, Reginald J. Balfour, R. H. Uren, Dr. T. F. Murray, Fred R. Phillips; secretary, James Milner.

In the Aldersyde district, south of Calgary, Ranchmen's Oil & Gas Co. is moving a drilling outfit down from the Peace River district for a test in LSD 16, Section 13-20-29w4. The outfit, including a derrick with standard tools, was used on the Peace River Community well. The company has the cellar dug and camp built, and expects to spud in some time in August. The test is the farthest east in the Calgary district.

Eldorado Oil Co. is planning to drill a test this season in the Steveville district. In the Acadia Valley, the Fuego Oil Co., Section 34-25-4w4, has been held up two weeks by a lost bit. The test is in a limestone formation at 2,860 feet. On the Sinclair structure, the Ranger Oil Co., Township 18 2w5, is working on derrick. Near Olds, the Coats syndicate test is drilling in the upper horizons.

In the Moose Mountain district, Signal Hill No. 2, LSD 9, Section 34-23-5w5, is drilling below 300 feet with the stovepipe casing set. Reserve Oils, Ltd., Morley Indian reserve, is drilling below 1,250 feet. In the Jumping Pound district, Imperial-Bow River No. 1, LSD 15, Section 12-25-5w5, is at 3,170 feet and drilling. In the Highwood district, Imperial Oil-Highwood No. 1, LSD 3, Section 36-18-3w5, has derrick up. In the Willow Creek Field west of Nanton, Imperial Oil-Rice Creek, Section 4-14-2w5, is at 4,521 feet and drilling.

Makes 336 Bbls. Flush

In the Wainwright Field, east-central Alberta, Edmonton-Wainwright No. 1, LSD 4, Section 29-45-6w4, has been put on the pump, a capacity test showing a flush production around 336 bbls. a day. It is expected the well will develop a settled production of 150 bbls. a day. As the company has no adequate storage or immediate market, the well will be shut in pending marketing arrangements. Other rigs drilling in the Wainwright Field are taking about 50 to 60 bbls. a day for fuel. Emerald Oils, Ltd., LSD 8, Section 30-45-6w4, is being drilled in. The oil sand in this well is very close and a shot may be tried.

Western Consolidated No. 2, Section 30 45-6w4, is drilling at 2,100 feet and close to the oil sands. This test should be in the sands within a week, when casing will be cemented preparatory to drilling in. When No. 2 is finished, the rig will be moved over to Western Consolidated No. 1, LSD 8, Section 20-45-6w4, which is unfinished at 1,400 feet.

Anglo-Alberta Oil Co., LSD 16, Section 19-45-6w4, is moving rotary outfit to the drill site. British-Wainwright No. 1, LSD 4, Section 22-45-6w4, has derrick up and is waiting for drilling equipment. In the Irma district, Edmonton Wainwright No. 2 (Irma Oil Development Co.), LSD 16, Section 28-45-9w4, is shut down at 1,600 feet waiting for some drill stem. Fabyan Petroleums, LSD 8, Section 24-45-8w4, is rigged up ready to drill in. The test will be drilled by contract, and gas lines are being laid to Maple Leaf No. 1 for fuel. Wainwright Dome No. 1, LSD 7, Section 31-45-6w4, has the derrick up and is waiting for tools. Dave Credille will drill this test. National Exploration Co., LSD 1, Section 30-45-6w4, has a drilling outfit ordered, and will rig up early in August. Toronto Wainwright Oils, Ltd., has secured 40 acres from British Petroleums, Ltd., and will drill in LSD 6, Section 29-45 6w4. Trafalgar Oils, Ltd., has a location in Section 10-46-6w4. This test is being financed by Toronto capital. Interior Oil Co., Section 36 44-7w4, whose outfit was burned last spring, is again rigged up, and waiting for a boiler; the test will resume drilling at 1,500 feet.

Commercial Petroleums, Ltd., has been organized under Dominion charter, with head office at Edmonton, and will drill on acreage in the Birch Lake, Irma and Wainwright Fields. Officers of the company are: President, S. G. Caldwell; vice president, A. M. Grigg; secretary-treasurer, W. R. Schurman; directors, J. J. McCoig, H. Burke and C. Webb.

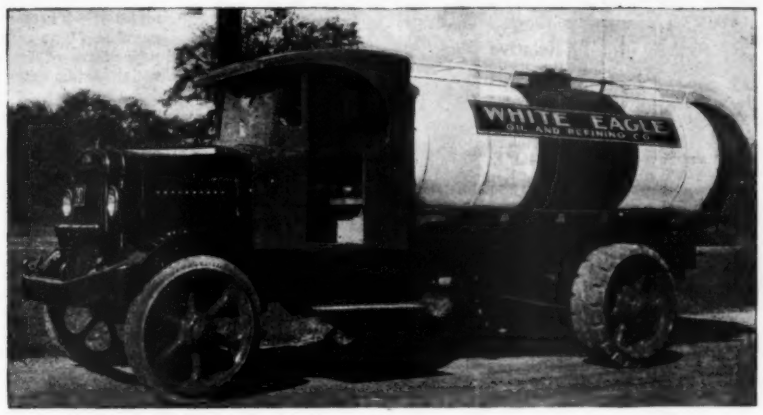
Mutual Oil Co., of Vancouver, B. C., held its annual meeting recently. The company is arranging for development of acreage in Section 24-45-7w4 on a royalty basis, and has secured acreage in the Turner Valley and Moose Mountain Fields. Officers of the company re elected were: President, A. Scobie; directors, Capt. W. B. Laycock, F. L. Runions, E. T. McGregor, G. H. Robertson, all of Vancouver; R. S. Anderson, G. J. Ragshaw, Victoria.

Ribstone-Blackfoot Area.

In the Ribstone-Blackfoot area, Ribstone Oils, LSD 1, Section 1 46-1w4, is reported rigging up. Ribstone Petroleums No. 1, Section 10-43-3w4, is rigged up ready to spud in. Advance Oil Co.'s No. 3 is ready to spud in. Imperial Oil-Ribstone No. 1, Section 5-45-1w4, is rigging up.

United Oils, Ltd., operating in the border field, held its annual meeting at Calgary recently. The directors re-elected were M. D. Geddes, president; O. G. Devenish, F. J. Green, F. M. Kempton. W. Arden, R. A. Brown and W. M. Connacher, secretary. The financial statement showed assets of $374,771.24, including approximately $14,000 cash, $150,000 in Government bonds, $18,700 invested in other

Wallace M. Briggs of Montebello, Calif., who uses 3½ and 5 ton GMC Big Brutes for hauling crude oil on contract from Long Beach to Los Angeles says, in addition to other good things: "GMC Trucks let me take contracts at a price I couldn't touch with other equipment and leave any profit. *Low operating costs* and *very little maintenance charge* is the answer."



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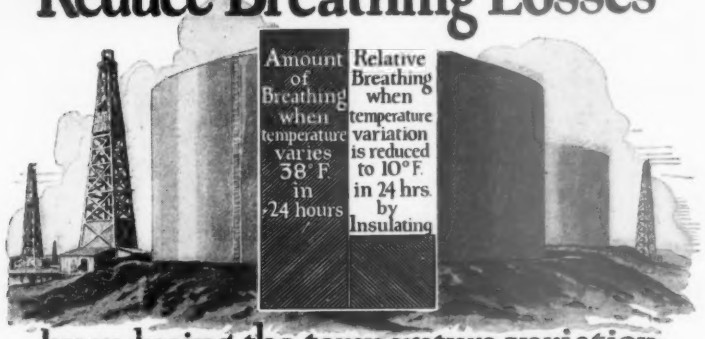
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companies, $2,000 advance payments on leases, together with 12,419 acres of leases, drilling outfit, trucks and automobiles. There were $850 in accounts payable. The company holds 360,000 no-par shares of Devenish Petroleums, Ltd., which holds extensive leases in the Border Field.

United Oils, Ltd., has a test in LSD 5, Section 27-5-14w4, on the Devenish leases rigged up ready to spud in. This location, south of Skiff, is near the center of the 80,000 acres recently blanketed by the Devenish-United interests. A standard outfit is being used. Calgary interests have filed on acreage east and west of Milk River, in the Lethbridge district. S. E. Slipper of Calgary has been conducting diamond drill tests for structure in this area, and it is understood a new dome structure has been mapped.

In the Quarantine Reserve area near Coutts, Urban Oils, Ltd., Section 4-1-15w4, has finished a fishing job and is drilling at 2,990 feet with considerable water in the hole. The company will shortly run 4¾-inch casing to shut off the water.

Pass Oils, Ltd, of Lethbridge, is contracting for a test in the Kevin-Sunburst Field. On the south slope of the field, Cascade Oils, Ltd., has spudded in a new test 30 feet west of the abandoned hole in Section 11-34-1w. Dundee Oil Co., of Deloraine, Man., is starting a test in the east pool of the Kevin Sunburst Field. This company also owns acreage in Section 2-45-1w4 and Section 10-44-2w4 on the Ribstone-Blackfoot structure in eastern Alberta.

Canadian operators are interested in the reported oil indications encountered in the Bell-Fey test on the south slope of the Sweetgrass Hills in Montana. After encountering oil at 1,787 feet the drill struck a flow of water; the 10-inch casing will be underreamed down from 1,650 feet to shut this off. W. E. Burke and associates of Great Falls and Butte are drilling the test. Five miles northwest the Loy Oil Co. is starting operations, and considerable additional drilling is promised in this area, which is a few miles south of the Rogers Imperial gasser in Section 29-1-11w4, east of Coutts.

In northern Alberta, R. D. Canfield, California highway expert, is discussing with the Alberta provincial government a project for developing the Athabaska tar sand deposits for road building purposes.

In Saskatchewan, Unity Valley Oils, Ltd, southeast quarter Section 23-41-24w3, near Vera, which struck a gas flow estimated around 500,000 feet a day at 300-foot horizon, has cased off the gas and is now drilling below 800 feet.

Ontario Fields

In the Ontario fields, Union Natural Gas Co.'s No. 11 McGuire farm, northwest corner Lot 22, Concession 8, Dawn Township, Lambton County, has finished a dry hole at 2,277 feet. The well was drilled to the red shales, testing the Guelph, Niagara, Clinton and Medina formations. This is the fifteenth well drilled by the Union in the Dawn Township area, of which five only were small producers, all the others being dry holes. Two of the wells were deep tests of the Trenton limestone, carried to 3,913 and 3,968 feet, and the remaining 13 tests of the upper formations averaging 2,028 feet.

In Dover Township, Kent County, it is reported that the Union Natural Gas Co. is planning a new test of the Trenton limestone, a considerable distance from the present Dover production.

In Norfolk County, the Dominion Natural Gas Co. has contracted for two tests for gas about 2 miles east of the Courtland Field. Contractor Wesner is moving in a rig, and Contractor Featherstone has the other test rigged up ready to start.

In Lambton County the High Pressure Oil & Gas Co.'s deep test at Rock Glen, near Arkona, is reported drilling in the Trenton, having resumed work recently after a long shut-down.

The Department of the Interior at Ottawa has announced the appointment of T. G. Madgwick, petroleum technologist, to succeed Stanley J. Davies, in charge of the Government work in the Alberta oil fields. Mr. Madgwick is an English geologist, with experience in practically every important oil field in the world, and was formerly in charge of the petroleum department of Birmingham University. He will take charge of Calgary in mid-August.

N. LOUISIANA-ARKANSAS

(Continued from Page 40)

and is making 500,000 feet of gas. In the Norphlet area of Smackover Gulf Refining Co.'s No. 21 T. C. Murphy, Section 9-16-15, is pumping 600 bbls. of fluid, 98 per cent salt water, from sand at 2,427-34 feet. In the same area Southern Crude Oil Purchasing Co.'s No. 4-A Wells, Section 15-16-15, is pumping 60 bbls. from sand at 2,597 to 2,605 feet. In the Smackover heavy extended territory, H. L. Hunt's No. 4 Swilley, Section 28-16-16, is making 140 bbls. on the beam from sand at 2,659-67 feet. In the Norphlet district Simms Oil Co.'s No. 4 S. Cook, Section 16-16-15, was deepened and completed at 2,721-23 feet as a 20,000,000-foot gasser.

Ackerly and associates' No. 1 Murphy, Section 1-17-16, is drilling at 1,375 feet. Arkansas Drilling Co.'s No. 1 Townes, Section 34-19-11, drilling at 2,005 feet. F. A. Book's No. 1 McDonald, Section 1-16-16, is drilling at 2,636 feet. Federal Petroleum Co.'s No. 7 Ballard, Section 10-16-15, tested salt water at 2,579 feet and has been temporarily abandoned. Gladys Belle Oil Co.'s No. 5-A Cook, Section 16-16-15, is coring at 2,453 feet. Grimes & Jones' No. 1 Prothro, Section 3-18-15, is coring at 2,224 feet. Gulf is going in to deepen old No. 29 Hardy-Murphy, Section 4-16-15, formerly completed at 2,379 feet. The plug at 2,358 feet is being drilled out at Gulf's No. 38 Hardy-Murphy, Section 5-16-15, and location has been staked for No. 39, 1,120 feet west and 660 feet north SE cor. Gulf's No. 22 T. C. Murphy, Section 9-16-15, is drilling at 2,020 feet. Six-inch was cemented at 2,234 feet at Gulf's No. 46 Werner, Section 6-16-16.

F. C. Henderson's No. 3 Smith, Section 18-16-15, is rigged up to be deepened. Five-inch casing was cemented at 2,664 feet at Hickman and associates' No. 7 Graves, Section 3-16-15. Hollayfield & McFarlane's No. 10 Giller, Section 11-16-15, was dry at 2,686-93 feet and is shut down for orders. Humble's No. 2-B Lawton, Section 7-16-15, tested salt water at 2,751 feet and is to be abandoned. Location was made for H. L. Hunt's No. 5 Swilley, SE cor. NW NW, Section 27-16-16. Six-inch is being pulled from 2,528 feet at Imperial's No. 1 Goodwin, Section 26-17-16, and the test is to be deepened from 2,592 feet where salt water filled the hole. Jones & Murphy's No. 1 Loutre, Section 5-19-14, is drilling at 2,011 feet. Same operators' No. 1 Union Saw Mill, Section 27-19-14, cored salt water sand at 2,685 feet and is going ahead at 2,745 feet.

Lion Oil & Refining Co.'s No. 10 Graves, Section 3-16-15, is drilling at 2,623 feet. Four-inch casing was cemented at 2,662 feet at Lion Oil & Refining Co.'s No. 1-H Murphy, Section 9-16-15. Magna Producing Co.'s No. 6 Tatum, Section 7-16-15, is in sand at 1,993 to 2,007 feet waiting for a standard rig. Magnolia's No. 2 Werner, Section 1-16-17, is drilling at 1,345 feet. Surface casing was set at 153 feet at Marine Oil Co.'s No. 1 Epps, Section 21-16-16. Matthews and associates' No. 1 Lewis, Section 14-19-12, is a rig. Sixty-five feet of 3½-inch casing was set at 2,789 feet at Murdock and associates' No. 7 Vestal, Section 17-16-15.

Other Operations

Natural Gas & Fuel Corp. and Atlantic's No. 1 Taylor, Section 23-18-17, is a rig. Four and one-half inch casing was set at 2,660 feet at Ohio's No. 3 Ballard, Section 14-16-15, and the plug is being drilled. Surface casing was set

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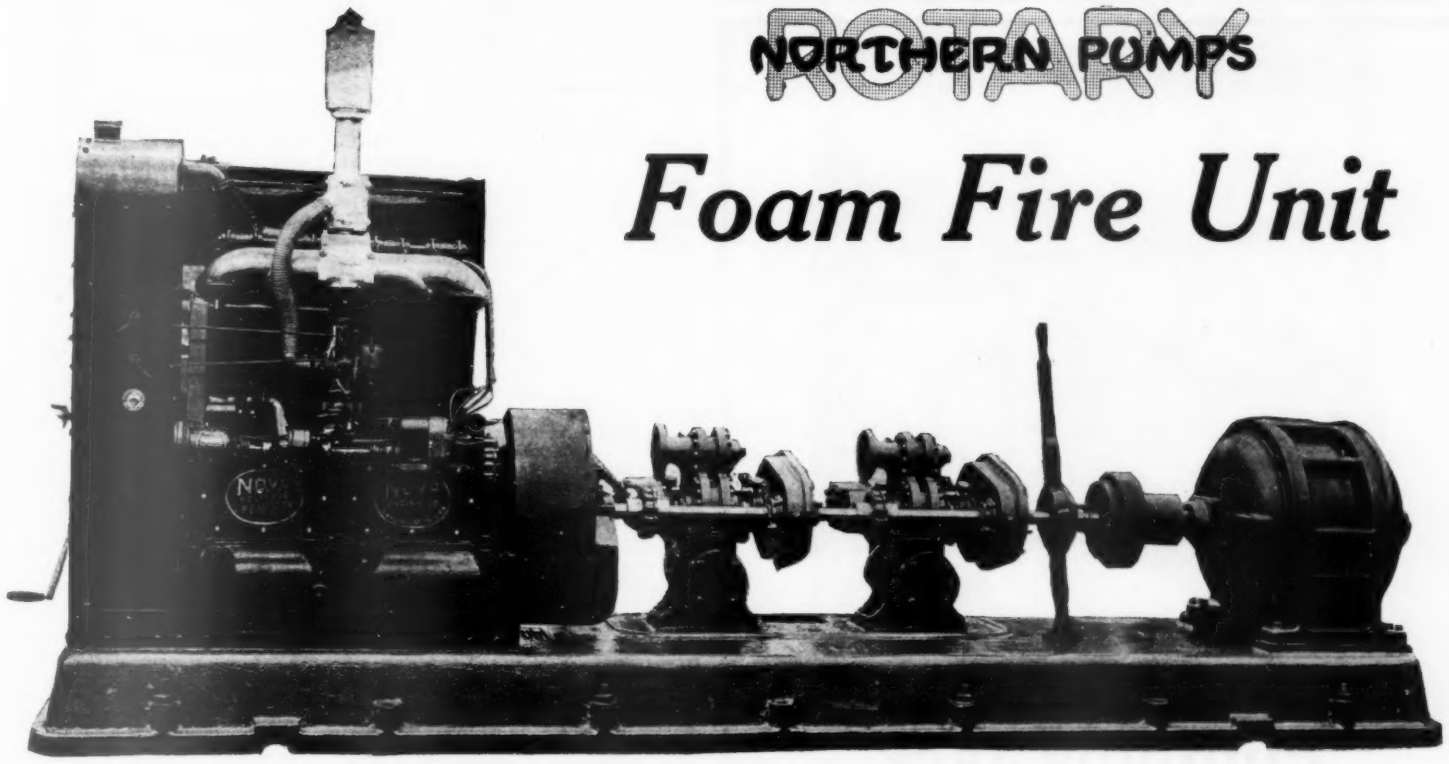

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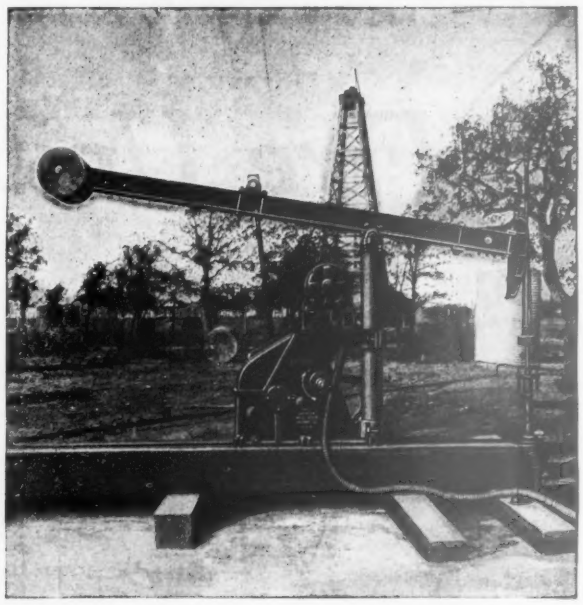

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at 98 feet at Peer Oil Corp.'s No. 7 Cook, Section 17-16-15. Six-inch casing was cemented at 2,687 feet, steel line measurement, at Sam Richardson's No. 2-M Murphy, Section 14-16-15. Simms Oil Co.'s No. 1 Simmons, Section 9-18-13, is drilling in shale at 1,955 feet. Casing was set at 2,723 feet at Skelly's No. 2 Hall, Section 9-16-16. Southern's No. 1 Rumph, Section 8-16-16, has 1,600 feet of oil in the hole from sand at 2,602-06 feet and is waiting for a standard rig.

Standard Oil Co.'s No. 4 Reynolds, Section 6-18-15, is drilling in rock at 905 feet. Stewart and associates' No. 5 Murphy, Section 9-16-15, has 500 feet of oil in the hole from sand at 2,438-46 feet and is waiting for a standard rig. A rig is up for A. H. Stoltz's No. 1 Wait, NE cor. NW SE, Section 4-18-16. Sun Oil Co.'s No. 9 Brown, Section 8-18-15, is drilling in hard sand at 3,337 feet. Sunny Jim Oil Co.'s No. 3 Flenniken, Section 9-16-15, tested 4,000,000 feet of gas spraying a little salt water at 2,675 feet and is to be deepened. Same company's No. 7 Lawton, Section 10-16-15, is in sand at 2,590-97 feet with 300 feet of oil in the hole and waiting for a standard rig. Sure Oil Co.'s No. 5 Murphy, Section 15-16-15, had sand at 2,636-43 feet and is waiting for a standard rig. The Texas Company's No. 4 C. L. Saxon, Section 4-16-16, has 1,300 feet of fluid in the hole from sand at 2,016-45 feet and tubing with a packer is being run. Eight-inch casing was cemented at 2,511 feet at Walber and associates' No. 2 Cordell, Section 6-19-13. Wingfield & James' No. 1 Gallagher, Section 10-17-17, is drilling in gumbo at 2,508 feet. A derrick pattern is on location for Wingfield and associates' No. 1 McGough, NW cor. SW SE, Section 22-17-13.

Ouachita Parish

Two of Ouachita County's wildcats were taken out of the running last week. J. D. Reynolds' No. 2 Ratch & Cartier, Section 36-13-18, west of Camden, was dry and abandoned at 1,877 feet, steel line measurement. South of Camden Vandiver and associates' No. 1 Yarbrough, Section 22-14-17, was abandoned at 1,641 feet. The only producer completed during the week was A. Meek's No. 1 Clawson, Section 35-15-17, in the Stephens Field, which is pumping 20 bbls. from 2,295 to 2,303 feet.

Gulf's No. 19-A Umsted, Section 33-15-15, had sand at 2,343-57 feet and is waiting for a standard rig; No. 20-A is drilling in hard sand at 2,350 feet: Humble's No. 10 Hildebrant, Section 28-15-15, drilling at 1,048 feet. Imperial Oil & Gas Co.'s No. 10 McClanahan, Section 6-16-15, is being reamed to the bottom at 2,549 feet. W. R. Keever's No. 2 Neeley, Section 27-15-16, is drilling at 1,944 feet. Magna Production Co.'s No. 4-B Rhoten, Section 32-15-15, is waiting on a standard rig in sand at 2,583-90 feet. Phillips Petroleum Co.'s deep test, No. 1 Tate, Section 9-14-17, is standardizing at 3,111 feet. J. D. Reynolds' No. 1 Howell, Section 15-14-18, is drilling at 1,875 feet.

Six-inch was cemented at 2,602 feet at Standard Oil Co.'s No. 10 Murphy, Section 20-15-15. Standard's No. 8-B Bennett, Section 32-15-15, is drilling in hard sand at 2,545 feet. The Texas Company's No. 17 Berry, Section 33-15-15, is standing with 1,000 feet of fluid in the hole from sand at 2,367-68 feet and waiting for a standard rig. Woodley Petroleum Co.'s No. 5 Richardson, Section 29-15-15, is spudding. In the Stephens district, Louisiana Oil & Refining Corp.'s No. 1 Culp, Section 22-15-19, is waiting for 8-inch to set at 1,460 feet. Louisiana's No. 2 Jones, Section 30-15-19, is being bailed to test sand at 2,170-80 feet. Magnolia's No. 4 Watson, Section 31-15-19, is drilling in gumbo at 1,550 feet. The plug at 1,558 feet is being drilled out at Arco Oil Co.'s No. 1 Davis, Section 22-15-19.

Columbia County

R. W. Aarnes' deep test in Stephens, No. 2 Brown, Section 13-15-20, is drilling in rock at 3,587 feet. Scott Phillips' No. 2 Davis, Section 6-18-20, is drilling in shale and boulders at 1,560 feet.

Nevada County

Pipe is being pulled from 1,200 feet where it stuck at W. F. Furen and associates' No. 1 Groves, Section 2-14-21. Humble Oil & Refining Co.'s No. 4 Bodcau, Section 10-14-21, is drilling in hard sandy lime at 2,532 feet.

LOUISIANA

LaSalle Parish

Finishing the week with the best well completed in the entire district during the seven-day period, Urania led all fields in new production and completions. Eleven new wells averaged 100 bbls. each. Four dry holes were abandoned.

Urania's big excitement came from around the townsite of Tullos. Abercrombie & Co.'s No. 2 King, CWL SE SW, Section 25-10-1e, was bailed in and started making 500 bbls. from sand at 1,503-07 feet. In the townsite of Tullos Cox and associates' No. 3 fee, Section 26-10-1e, is making 80 bbls. of fluid, 20 per cent salt water, from sand at 1,491 to 1,503 feet. O. F. Whittaker's No. 5 King, Section 36-10-1e, is making 75 bbls. on the pump from sand at 1,527-29 feet. On the Louisiana's Tremont lease, Section 25-10-1e, No. 34-B was finished in sand at 1,514-17 feet pumping 75 bbls. and No. 6-B is pumping 40 bbls. from 1,559-63 feet.

North of Tullos, Natural Gas & Fuel Corp. completed two on its Urania lease, Section 18-10-2e. No. 1-H, pumping 30 bbls. from sand at 1,550-58 feet and No. 2-K pumping 15 bbls. at 1,555 feet. Same company's No. 1-M Urania, Section 19-10-2e, is pumping 35 bbls. at 1,575-78 feet. Dixie Oil Co.'s No. 8 Urania, Section 24-10-1e, was dry and abandoned at 1,552 feet. In the north end of the field, Hunt McCurry & Zoder's No. 3 Urania, Section 7-10-2e, is pumping 100 bbls. of fluid, 60 per cent salt water from sand at 1,516-20 feet and Beckman & Freeman's No. 2-B Urania, Section 7-10-2e, is flowing 50 bbls. from sand at 1,524-26 feet.

Two miles south of the field in territory opened a few weeks ago, H. L. Hunt's No. 1 Griswold, Section 2-9-1e, was completed in sand at 1,501-03 feet, flowing 100 bbls. by heads. Southern Crude Oil Purchasing Co.'s No. 1 Baldridge, Section 11-9-1e, a quarter of a mile east of production, was dry at 1,526 feet and location for No. 2 Baldridge was abandoned. Farther south Henry Jones' wildcat, No. 1 W. Taylor, Section 23-9-1e, was dry at 1,634 feet. Northwest of production Spencer & Rhodes' No. 2 Urania, Section 1-10-1e, went into salt water sand at 1,540 feet and was abandoned. It was an offset to their No. 1 which blew out and then went into salt water.

Semiwildcat Activity

Little new work was started in Urania last week and practically all of the operators' attention is being lavished on the semiwildcat territory.

Six-inch casing was cemented at 1,498 feet at Beckman & Freeman's No. 3-B Urania, Section 7-10-2e, and No. 4-B is a rig. A derrick is up for Carter & Hurley's No. 1-C Urania, Section 3-9-1e. Cherokee Petroleum Co.'s No. 3 Louisiana Central, Section 33-10-3e, is shut down at 1,540 feet for orders. Hamilton and associates' No. 2 Wright, Section 26-10-1e, is drilling at 700 feet. A derrick is up for Hope Oil Co.'s No. 3 Urania, NE SW SW, Section 19-10-2e. Humble Oil & Refining Co.'s No. 2-A Louisiana Central, Section 22-11-3e, is drilling at 500 feet.

Hunt's No. 2 Griswold, Section 2-9-1e, is rigged up and ready to go. Eight-inch casing was set at 1,500 feet at Hunt's No. 15 Tullos Heirs, Section 26-10-1e. Jena Oil Corp.'s No. 1 White Sulphur, 500 feet south and west, NE cor. SE SE, Section 23-8-4e, is drilling at 100 feet. Ten-inch casing was set at 80 feet at Henry Jones' No. 2 W. Taylor, NE NW SW, Section 23-9-1e. Hope Oil Co.'s No. 2 Urania, Section 19-10-2e, has a hole full of oil from sand at 1,561-64 feet and is waiting for a standard rig. Keene & Woolf's No. 1-A Collins, Section 7-10-2e, is drilling at 200 feet. Louisiana Oil & Refining Co.'s No. 14-B Tremont, Section 25-10-1e, is waiting for casing to set at 1,491 feet. Same company's No. 1-C Tremont, Section 35-10-1e, is drilling at 1,282 feet.

Six-inch casing was cemented at 1,490

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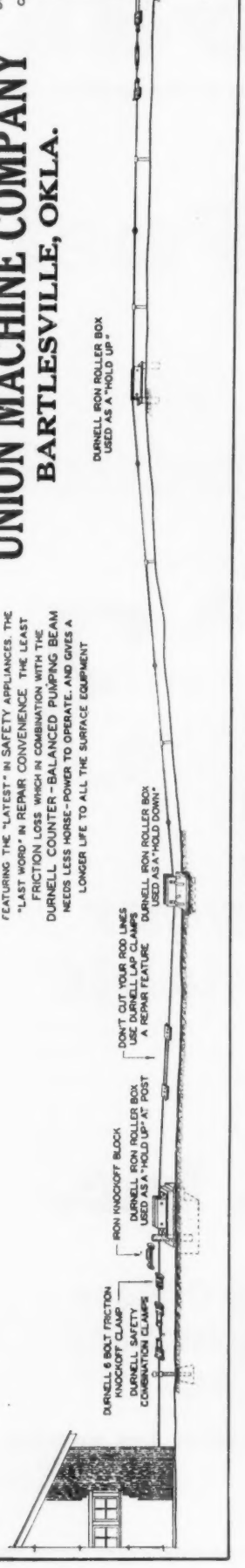
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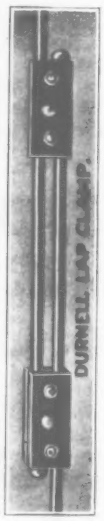

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feet at Love and associates' No. 6 Zimmerman, Section 25-10-1e, and the plug is being drilled. Montague Oil Co.'s No. 3 Zenoria, Section 11-9-1e, is a rig. W. T. Murray's No. 2 Doughty, Section 36-10-1e, is in sand at 1,507-11 feet and waiting for a standard rig. Six-inch casing was cemented at 1,550 feet at Natural Gas & Fuel Corp.'s No. 3-H Urania, Section 18-10-2e. and at 1,540 feet at No. 7-K, same section. Same company's No. 4-F Urania, Section 24-10-1e, is drilling at 400 feet. Six-inch casing was cemented at 1,496 feet at T. G. Randle's No. 1 Kinney, SE SW SW, Section 7-10-2e. Surface casing was set at 100 feet at The Texas Company's No. 1 Swope, Section 16-9-1e. Tunica Petroleum Co.'s No. 6 L. & A., Section 22-9-2e, is drilling at 1,310 feet. Vacuum Oil Co.'s No. 1 Louisiana Central, Section 13-10-2e, is a rig. George W. Wetherbee's No. 2-A Urania, Section 2-9-1e, is being bailed to test sand at 1,498½ to 1,500 feet.

On the Winn Parish side of Urania O. W. Clark's No. 5 Harper, Section 26-10-1e, drilling at 500 feet and 6-inch casing was cemented at 1,486 feet at No. 6 Harper. Keene & Woolf's No. 2 Tisdale, Section 26-10-1e, is drilling at 1,335 feet. O'Neill & Schuman's No. 1 Albritton, Section 27-10-1e, is drilling in lime and shells at 1,496 feet.

Caddo Parish

Ohio Oil Co.'s No. 1 J. S. Ardis, Section 1-21-15, failed to give encouragement to deep drilling in Pine Island when it was abandoned at 4,656 feet. Of the other deep tests in Caddo, Dixie Oil Co.'s No. 1 Jolly, Section 27-22-15, is drilling in hard lime at 4,175 feet. Gulf Refining Co.'s No. 1 J. M. Byrd, Section 2-19-14, is drilling in lime at 3,409 feet. Gulf's No. 1-E Muslow, Section 35-21-15, is going through red shale streaked with lime at 4,602 feet. Magnolia Petroleum Co.'s No. 16 Dillon, Section 24-21-15, is drilling in lime at 2,662 feet and No. 17 is boring through lime at 3,164 feet. Magnolia's No. 1 Spell, Section 29-21-15, is grinding down through hard lime at 3,410 feet. Magnolia's No. 1 Bradford, Section 24-21-15, is coring formations at 3,704 feet. The Texas Company's No. 42 C. M. L. Co., Section 23-21-15, is underreaming 4½-inch casing to 3,703 feet and the total depth of the hole is 3,710 feet.

In the old Caddo Field, half a dozen small producers were completed. Double II Oil Co.'s No. 6 Watkins, Section 27-21-15, was good for 10 bbls. on the pump at 1,652 feet. Dixie's No. 77 Robertshaw, Section 14-21-15, is pumping 8 bbls. from 1,672 feet. Gulf's No. 242 Ferry Lake, Section 16-20-16, is making 1,500,000 feet of gas and 15 bbls. of oil from 2,276 feet. Lewis Oil Corp.'s No. 7 Vespy, Section 15-21-15, is pumping 15 bbls. from the chalk rock at 1,647 feet. The Texas Company's No. 7-A Hobbs, Section 28-21-15, is pumping 38 bbls. of oil and 16 bbls. of salt water from chalk rock at 1,600 feet, and No. 3-B Hobbs, Section 21-21-15, is pumping 5 bbls. of oil from 1,642 feet.

Several first reports boosted Caddo's field operations. Bayou State Oil Co.'s No. 28 Hess, 1,080 feet east and 1,020 feet south, NW cor. SW, Section 24-22-15, is drilling at 1,040 feet. W. D. Chew's No. 1-A Caddo L. B., Section 9-20-16, is being bailed to test at 2,290 feet. Double II Oil Co.'s No. 7 Spell, Section 15-21-15, is drilling at 800 feet. Dixie's No. 15 Muslow, Section 7-20-15, is drilling at 2,250 feet, and a derrick is up for No. 17, SW cor. NW.

A rig is up for Dixie's No. 10 Slattery, 197 feet south and 2,278 feet east, NW cor. Section 27-21-15. Gilliam Syndicate's No. 1 Sellington, Section 17-21-14, is being reamed to 1,400 feet to set 10-inch casing. Gulf's No. 245 Ferry Lake, Section 22-20-16, is drilling in chalk rock at 1,515 feet; No. 253 is a derrick. Six-inch casing was cemented at 2,149 feet at No. 246, Section 15-20-16; No. 247 is drilling at 500 feet; No. 248 is a derrick, and No. 252 is a derrick. Six-inch casing was cemented at 2,149 feet at Gulf's No. 6-U Caddo L. B., Section 9-20-16, and No. 7-U, Section 16-20-16, is a derrick.

Morris Drilling Co.'s No. 1 Palo Oil Co., Section 1-20-16, got only a small show in the chalk rock at 1,655 feet and is drilling ahead at 1,700 feet. Owl Oil Co.'s No. 1 Bryson, Section 9-17-16, is drilling at 2,350 feet, and No. 2, in Section 7, is drilling at 1,900 feet. Arrangements are being made to set 4½-inch casing at 2,100 feet at Ramsey and associate's No. 1 Muslow, Section 32-21-15. Page and Caldwell's No. 1 Hobbs, Section 29-21-15, is shut down at 2,250 feet. A derrick is up for Standish Oil & Refining Co.'s No. 8 Allen, Section 23-22-15. Superior Oil Co.'s No. 4 Youree, Section 26-20-15, is waiting for a standard rig at 2,301 feet.

The Texas Company's No. 63 Caddo L. B., Section 14-21-16, was dry at 2,140 feet and is going ahead at 2,151 feet. The Texas Company's No. 48 C. M. L. Co., 911 feet east and 565 feet south NW cor. Section 26-21-15, is a rig. The Texas Company is plugging No. 1-B F. J. Bayou, Section 15-20-16, back to the 2,200-foot horizon, from 4,405 feet. Of the other operations of The Texas Company, No. 54 S. P. Harrell, Section 4-21-16, is drilling in shale and gumbo at 2,368 feet; No. 8 J. K. Herold, Section 14-21-15, is being bailed to test at 1,655 feet; No. 4 Hicks and Payne, Section 21-21-15, is drilling in blue shale at 2,119 feet, and No. 3 Perry, Section 3-20-16, is a rig.

Thomason and associates' No. 1 Muslow fee, Section 31-21-15, is drilling at 1,000 feet. Unity Petroleum Co. has staked locations for No. 1 Carpan fee, 990 feet south and 330 feet west NE cor. NW, Section 13-21-16, and for No. 2 Carpan fee, 330 feet north and 330 feet west SE cor. SW, Section 24-21-16. Victor Wenzell's No. 1 Thomas, Section 15-20-15, is drilling at 930 feet and his No. 1 Wemple, Section 14-20-15, is drilling at 890 feet.

Bossier Parish

Benton Syndicate's No. 1 Bulkley, Section 9-20-13, is shut down for orders at 1,475 feet. Doern and associates' No. 1 Bollinger, Section 9-22-11, is drilling in chalk rock at 2,200 feet. Woodley and Collins' No. 1 L. & A., Section 14-23-12, was plugged back from 3,114 feet to 3,109 feet and tubing with a packer was set. The test is making about 2,500,000 feet of gas and 200 bbls. of salt water.

Monroe District—Morehouse Parish

Feazel, trustee's No. 1 Archer, Section 22-20-4e, is waiting for 8-inch casing to set at 860 feet. Standard Oil Co.'s No. 1 Cooperage, Section 34-21-3e, is coring at 250 feet. Six-inch casing was cemented at 2,140 feet at United Carbon Co.'s No. 1 Burton, Section 24-20-4e.

Ouachita Parish

Central Co.'s No. 1 Kerr, Section 12-9-4, is drilling at 1,535 feet. Hatcher and Evans' No. 4 fee, Section 17-19-4e, is drilling at 2,100 feet. Ladell and associates' No. 34 fee, Section 6-19-5e, is a derrick. Six-inch casing was cemented at 2,147 feet at Maury Drilling Co.'s No. 3 McErwin, Section 20-19-4e. Ouachita Natural Gas & Oil Co.'s No. 2 D'Arbone, Section 25-19-2e, is drilling at 970 feet. Palmer Corp.'s No. 1 Central, Section 1-19-4e, is drilling at 2,135 feet. Southern Carbon Co.'s No. 49 fee, Section 35-19-4e, is drilling at 2,118 feet.

Union Parish

Arkansas Fuel Oil Co.'s deep test, No. 1 James Reeves, Section 14-20-1e, is drilling in shale at 3,953 feet. Location has been staked in Section 14-20-1e, for G. E. Camette's No. 1 Tugurie. Southern Carbon Co.'s No. 4 Grayling, Section 28-21-4e, is drilling in gas rock at 2,104 feet. Six-inch casing was cemented at 2,075 feet at Southern's No. 5 Grayling, Section 21-21-4e.

Webster Parish

Ohio Oil Co.'s test is the deepest of the deep tests drilling in Webster Parish. Ohio's No. 1 Cox, Section 23-21-10, Cotton Valley, is going through hard shale at 5,863 feet. Ohio's No. 2 Holloway, same section, is drilling in anhydrites at 4,293 feet. R. W. Norton's No. 1 Josey and Massey, Section 27-21-10, is drilling at 3,160 feet. Smitherman and McDonald's No. 1 Oakley, Section 29-33-11, cored anhydrites at 4,648 feet. Southern Crude Oil Purchasing Co. and Ramsey's

(Continued on Page 98)

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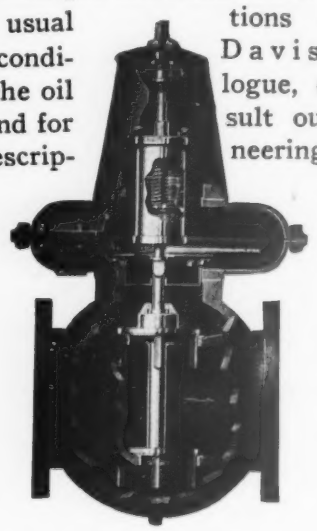

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METHODS USED FOR LOCATING STRUCTURES

(Continued from Page 64-D)

no disturbances exist. When the instruments are set up above any disturbing masses, the magnetic force is altered and therefore the magnetic system inclined a little. On top of the magnetic system a mirror is attached which reflects the image of a small glass scale in the telescope. Therefore the observer sees two images of the scale the displacement of one on the other is measured. In the vertical variometer the magnetic system is lying horizontally and is therefore deflected by the vertical component. In the horizontal field balance the magnetic system stands vertically and is tilted therefore by the horizontal component of the earth's magnetism.

Method of Observation

The procedure of the observation is very simple: The differences of the stations are read in scale divisions and the differences multiplied with the absolute value of one scale division, thus differences in

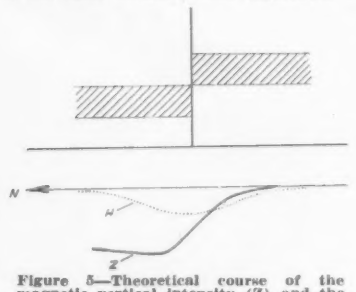

Figure 5—Theoretical course of the magnetic vertical intensity (Z) and the horizontal intensity (H) above a fault line.

the horizontal and vertical intensity are obtained. Because the earth's magnetism varies with time, the variations are to be read or recorded by means of a stationary instrument; that means the same principle is used as applied for the barometric measurements of height.

Indirectly the magnetic method is employed where structures are to be located in which differences in the content of magnetic substances occur, that means especially for locating faults, granite ridges and salt domes. In territories of relatively great inclination a maximum of the vertical intensity exists directly above the center of magnetic masses, while the horizontal intensity is at its maximum or minimum above the edges.

Figure 5 shows the behavior of the vertical intensity Z and the horizontal intensity H above a fault line which displaces two horizontal magnetic strata. The vertical intensity is greater above the uplifted part of the layer; the horizontal intensity is at its maximum at the outcrop of the fault.

Above a Salt Dome

Figure 6 illustrates the behavior of the vertical, of the horizontal intensity and inclination above a salt dome. The vertical intensity shows a minimum above a dome because the salt is non-magnetic and the adjoining sedimentary rocks always carry magnetite to a certain extent. The horizontal intensity is at its maximum and minimum above the edges of the dome.

I have computed the distribution of the inclination in order to suggest magnetic measurements with the rotary inclinator which have still a smaller mean error than the measurements made with the field balance, and are first of all free from alterations of the zero position occuring sometimes with the field balance and with which there is no need of any temperature correction. Since the measurements with the rotary inclinator are performed with an accuracy of plus or minus 0.1 to 0.2 minute, it is evident that there is an advantage in comparison with field balance measurements because the disturbances of the vertical intensity which can be expected theoretically above salt domes without caprock (average 30 small Gauss units), are about four times as much as the middle error while the deviation of the inclination in its extremes amounts about to 2 minutes, i.e. 0X as much as the middle error of the inclinator method.

It must be remarked that also electrical, geothermical and radioactivity methods are used to a certain extent as an aid for locating subsurface structures, which however, mainly enable the direct location of oil and are therefore dealt with in the following chapter for uniformity's sake.

Direct Methods

The second kind of geophysical method is now to be discussed. It concerns itself with the direct finding of oil. In practice however so far the range of these methods has been essentially smaller than that of the indirect methods; but it is to be hoped that with the continuous development of science and improvement of methods the oil industry will apply them more and more.

As stated in the introduction oil can be located because of its smaller specific gravity, this case however is an exception. I know in Germany where the oil occurred in pretty shallow chalk deposits; the area with the oil bearing chalk therefore represented a lighter mass than the adjoining chalk layers carrying water instead of oil. Measurements made with the torsion balance gave data making it possible to separate the oil bearing district from the unproductive area.

Another geophysical method is based on

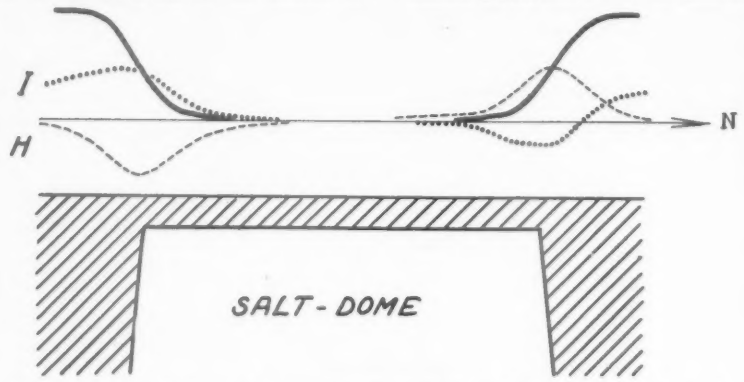

Figure 6—Vertical intensity Z, horizontal intensity H and inclination I of the earth magnetism above a salt dome.

the fact that oil sand has a much less conductivity than the country rock. The results obtained so far with electric measurements are still a matter of discussion, but after some experience has been gathered with this method in the oil fields, with known depths and with known geological conditions of the oil horizons, it may result that it is possible to locate the oil with it.

There are numerous electrical methods which have been used up to date without exception for locating ores successfully. I will take no account of electrical methods measuring electric currents which are produced by effects of polarization on ores or other irregularities in the earth. Methods only may be discussed with which the alteration of electrical current is being measured which are sent into the ground artificially.

The simplest manner of applying such methods is to measure the electric resistivity of a circuit along the surface of the earth. Such measurements were applied for patent in the United States about 1900 by Brown and MacClatchey

Another Record

One Buffalo Drilling Unit used in the Pennsylvania fields drilled 44 wells without being overhauled.

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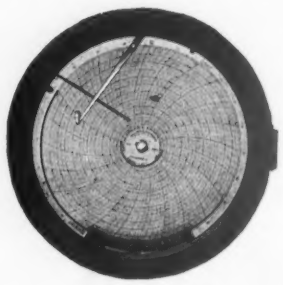

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and approximately at the same time in England in a slightly different form by Daft and Williams. Since electrical measurements have been carried out so far nearly without exception for locating ores and since ore deposits at low depths have not influenced essentially the average resistence of the earth, this method was abandoned or applied only in connection with ores or water masses in mines. Recently O. H. Gish and W. J. Rooney (Terr. Mag. Dec. 1925) based on experiments of Wenner, have shown that it is possible to determine, by means of the resistivity method, also certain simple shapes of hidden structures. Figure 7 shows some results which these authors obtained above a buried depression. Perhaps it will be possible to find with this method erosional depressions, placers, buried granite ridges faults and probably salt domes. It will have to be decided by experiments whether it will be possible to separate with this method an oil bearing district because of its general higher resistivity from unproductive areas.

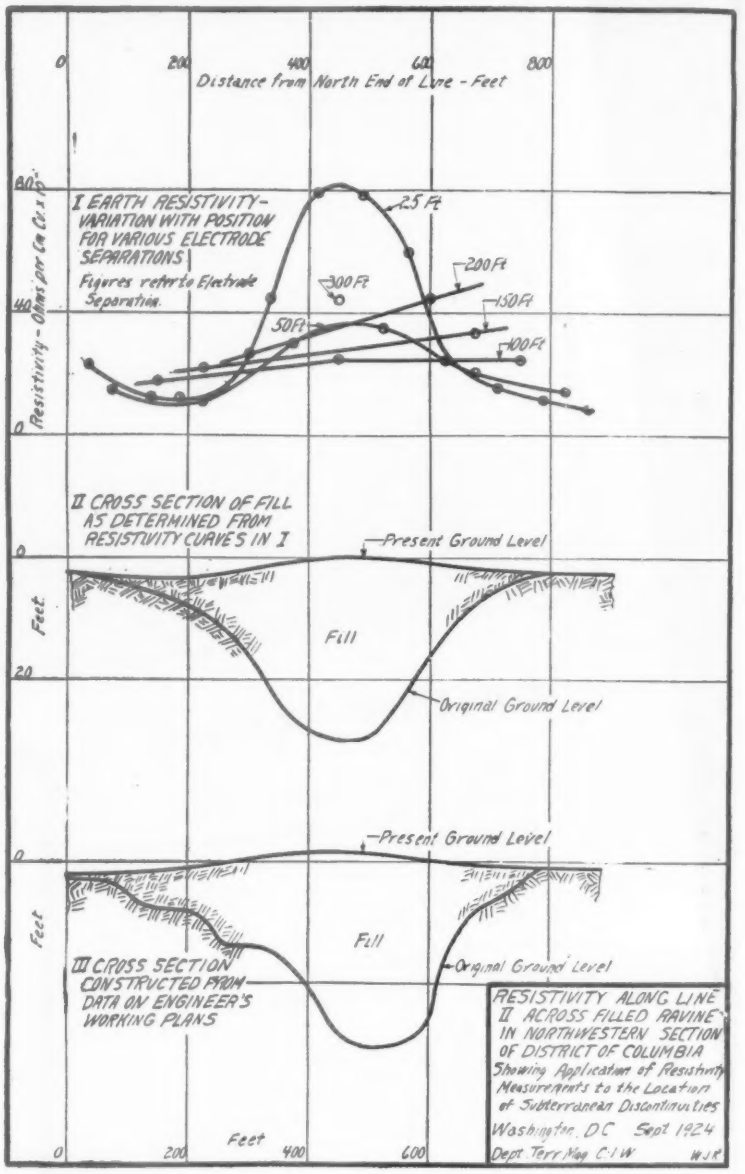

0
200
400
600
800
Distance from North End of Line - Feet
I EARTH RESISTIVITY - VARIATION WITH POSITION FOR VARIOUS ELECTRODE SEPARATIONS
Figures refer to Electrode Separation.
Resistivity - Ohms per Cu. Cm.
80
40
0
25 Ft.
200 Ft.
300 Ft.
150 Ft.
50 Ft.
100 Ft.
II CROSS SECTION OF FILL AS DETERMINED FROM RESISTIVITY CURVES IN I
Present Ground Level
Fill
Original Ground Level
Feet
20
III CROSS SECTION CONSTRUCTED FROM DATA ON ENGINEER'S WORKING PLANS
RESISTIVITY ALONG LINE II ACROSS FILLED RAVINE IN NORTHWESTERN SECTION OF DISTRICT OF COLUMBIA
Showing Application of Resistivity Measurements to the Location of Subterranean Discontinuities
Washington, D.C. Sept. 1924
Dept. Terr. Mag. C.I.W. W.J.R.

Figure 7—Measurements of the alteration of average resistivity by depth done by O. H. Gish and W. J. Rooney above a filled depression.

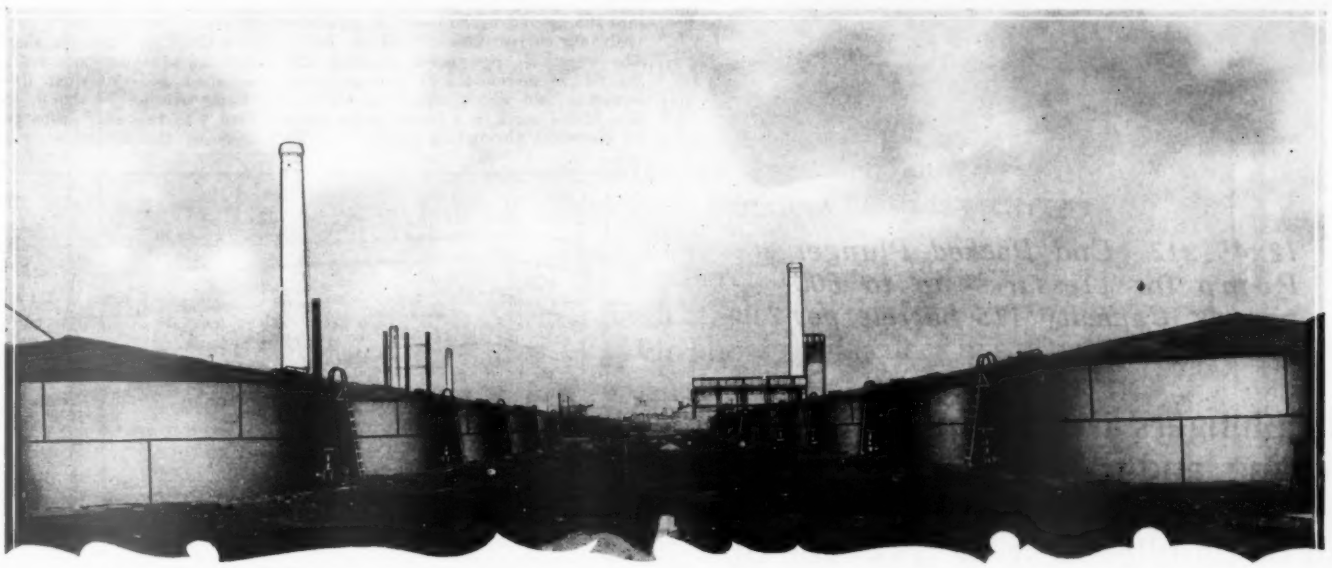
Other Methods

To a much larger extent than the resistivity method other electrical measurements have been used so far with which the distortion of an artificial electric field caused by bodies of different conductivity is investigated. There can be distinguished three different kinds of such methods which we will try to explain as simply as possible and call them the equipotential line-method, the inductive current line-method and the galvanic current line-method.

Suppose positive and negative electric current of a generator is sent into the earth at two points. Then the electric current will run from the negative to the positive pole along lines of which we may call current lines and the form of which resembles that of the magnetic force lines which connect the positive and negative pole (but which have physically nothing to do with magnetic force lines as stated). At right angles to these current lines is running another kind of lines along which no current or the same voltage exists which we call equipotential lines.

The method using equipotential lines was invented in 1912 by C. Schlumberger. He sends into the earth at two points a direct current and finds the course of equipotential lines by taking current from the earth by means of two secondary electrodes which are connected by a potentiometer. Then he leaves one secondary electrode stationary and moves the other as long as the potentiometer shows no more deflection; then both secondary electrodes are located upon one equipotential line. The interpretation of the results is facilitated by using cable electrodes instead of point shaped electrodes as proposed by Nathorst and Lundberg by which arrangement the undisturbed equipotential lines become straight; also it is recommendable to use alternating instead of direct current. A good conductor forces the equipotential lines apart; a bad conductor attracts them. Up to date, by means of the equipotential method, mainly ores have been found, but also structures have been located successfully because sedimentary rocks frequently are better conductors in the direction of cleav-

TANKAGE



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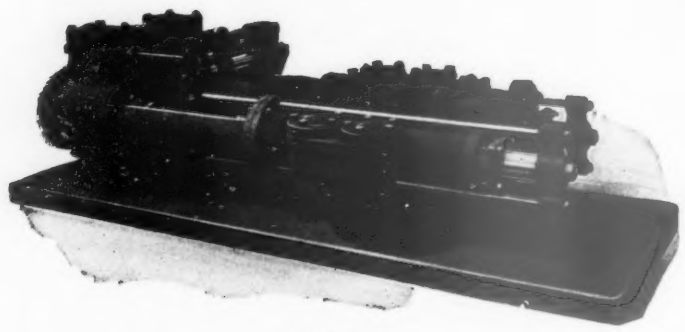

Fig. 117

12x4½x12" End Packed Plunger Pump for pressures up to 600 pounds. Capacity 115 barrels per hour.

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age because of more moisture than at right angles to it. It is not known that oil or gas has been found by means of the equipotential method.

The equipotential line-method has the peculiarity that practically the same gravity of deflection is obtained with very small as well as with very great differences in conductivity, and that the effect of any disturbing bodies decreases with the inversed third power of the distance. That means very quickly.

Current Line Method

A possibility to reach greater depth is given by the current line method. In the area under survey for instance a loop is laid out and supplied with alternating current (a method which we may simply call inductive current line method). This method has been developed and used practically by Sundberg in Sweden. The alternating magnetic field produced by the mentioned current gives rise in the earth to electrical currents which run along lines attracted by conductive bodies and forced apart by non-conductive material. The current, the lines of which are to be investigated can also be sent directly into the ground by means of a generator (galvanic current line-method of Gella). The current lines going through the ground are surrounded by a magnetic alternating field which induces at the surface of the earth in a frame aerial again an electrical alternating current capable of being measured. The direction of the current lines can be determined by seeking for the position of the frame aerial where no current is induced any more. This is then at right angles to the magnetic field and therefore perpendicular to the current lines. A more complete result can be obtained by measuring the strength of induction in three positions of the frame aerial at right angles to each other.

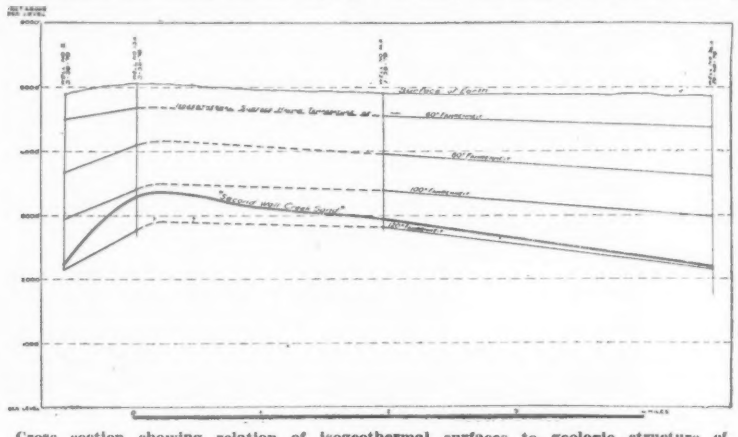
The advantage of the inductive current line method is that by the indications the magnetic and electric properties of the disturbing masses especially using different numbers of cycles can be determined, and that also disturbances in greater depth can be located. The galvanic current line method has the disadvantage in comparison to the inductive method that the properties of the conductive material cannot be determined from the measurements; however it has the peculiarity that similarly to the equipotential line method already very slight differences in the conductivity can produce large deflections. This is probably the reason why the galvanic current line method is the only one with which the direct location of oil and gas is claimed to be successful. As far as I know, also with the inductive method experiments are now being made in North America. No information however could be obtained whether the results have been successful with it above oil deposits.

Temperature Measurements

Furthermore the location of oil and gas is possible by measurements of temperature at various depths. Sometimes from the geothermal measurements conclusions can be drawn which may lead indirectly to the location of oil since the structure itself has a different influence on geothermal data. In more or less horizontal strata the temperature gradient is greater than in steep formations. W. T. Thom and C. W. Van Orstrand found rather steep thermal gradients above structural uplifts in Wyoming.

Usually the temperature in bore holes is being measured by means of maximum thermometers which have to be enclosed in well tightened sockets if there is water or mud at the bottom of the hole. Koenigsberger and Van Orstrand have designed handy outfits for the measurement of temperature in deep holes. From the measurements the gradient of temperature can be computed, which is the increase of temperature per foot. The reciprocal value of this gradient is sometimes calculated, which is the number of feet by which one has to go deeper in order to get an increase of the temperature of one degree.

An increase of temperature gradient has actually been determined according to previous publications in oil districts of the United States, Dutch Indies, Mexico, Alsace, Japan and Persia. A decrease of the gradients probably caused by the presence of gas has been found by Van Orstrand in West Virginia. Figure 9 gives an example of measurements made by Van Orstrand above the oil dome of Salt Creek in Wyoming showing that the lines of equal temperature at depth, the so-called geo-isothermal lines, are very closely related to the depth of the oil sand. In this case probably the two influences, the structure of the dome as well as the oil sand itself, were acting the same way, thus causing these very pronounced results.



Cross section showing relation of isogeothermal surfaces to geologic structure of Second Wall Creek sand in the Salt Creek oil field, Wyoming.

Radio-Active Measurements

Finally it may be mentioned that it is frequently possible to determine in drill holes whether a gas or oil horizon is approached by examining continuously the samples coming from the well for radio-active substances. A usual electroscope connected with chamber of ionization is sufficient for such purposes. A positive success has been obtained by this method at the natural gas well at Neuengamme near Hamburg where a great increase of radio-activity of samples of the gas bearing sands was determined. Recently a method has been suggested by Ostermeier to measure the radio-activity in drill holes.

KENTUCKY-TENNESSEE

(Continued from Page 50)

ing job at No. 1 Greer farm, in the Etoile area.

Owensboro District

The Owensboro district of Hancock, Ohio and Daviess Counties is quite active, and numerous extension wells are being tried out. Ohio and Daviess Counties are getting a majority of the outside testing, as several new concerns have gone into these counties for the purpose of testing out the outlying territory, as the Ohio Oil Co. did on the Ambrose farm, 10 miles in advance of production, getting a well estimated at 15 bbls. initial.

The wildcat of Johnson & Engle on the L. L. Trogdon 90 acres, 8 miles south of Whitesville and an important test, lost the tools in the hole at 840 feet.

The Penn-Indiana Oil Sydicate's No. 3 on the W. L. Griffith 270 acres is re-

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4½	16	15	20
4¾	16	15	25
4⅞	16	15	25
5 3-16	16	15	25
6	16	15	50
6¼	16	15	50
6⅝	16	15	55
8¼	16	15	65
10	16	15	85
12½	16	15	135
14	16	15	150
15¼	16	15	170
16	16	15	165
18	16	15	250
20	16	15	280

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ported at 8 bbls. This company is drilling No. 8 on the Laura Mercer 84 acres, No. 3 on the C. A. Kelley and starting a test on the Orvis Greer 190 acres.

The Chicago Petroleum Syndictae's No. 1 on the Guenther-Gant 114 acres is estimated around 5 bbls. Same company is drilling No. 8 on the Guenther-Gant 270 acres, and No. 9 is also under way.

White Plains Oil & Gas Co.'s No. 3 Orella Ralph farm, and 400 feet west of No. 2, is showing for 5 bbls. Same company is drilling No. 3 John C. Ward farm and No. 4 Joe Bob Ellis farm. The Ohio Oil Co. is drilling No. 2 on the Ellis-Sheflin farm.

Allen County

Small pumpers were the result of the drill in the Scottsville Field of Allen County. Operators have been in hopes of picking up a virgin pool in the county where the wells will prove productive as several ears ago. Lee Moore has drilled in his No. 6 on the Lee Moore No. 2 farm, for 4 bbls. at 375 feet.

C. L. Sherwood's No. 12 on the Elizabeth Stovall farm showed 1 bbl. at 409 feet. A. Davis made the best of the late strikes by drilling in a 10 bbl. well in No. 3 on the W. M. Dodson farm at 380 feet.

The M. S. H. Oil Co.'s No. 3 on the Earl Oliver farm produced 2 bbls. at 350 feet. John A. Hedley, attorney, No. 12 J. F. Stovall farm, produced 3 bbls. at 346 feet, and F. J. Tapp's No. 12 Ike Hill farm showed 3 bbls. at 350 feet. Charles Foster is drilling No. 5 John Meador farm. and Mealy & Mealy are doing the same at No. 20 M. J. Lewis farm.

Other Wells

In the Bowling Green Field of Warren County, Onsel Brothers and others' No. 9 Josephine Ennis farm, is a 3-bbl. well at 920 feet. T. A. Sheridan is drilling No. 6 Georgia Ann Davenport farm. H. V. Taylor, attorney, is drilling No. 20 R. C. Smith farm. George McGinley is doing the same with No. 22 J. W. Pugh farm. Ruther Turner is going ahead with No. 5 Ora S. Davenport 25 acres and the New Domain Oil & Gas Co. is drilling No. 5 Besse Snell Clark farm.

J. F. Bolinger is drilling a test on the Sadia Bledsoe farm, in the Crocus Creek district of Cumberland-Monroe Counties.

In Franklin Field, Simpson County, Small & Tully's well on the Hogan, is showing for 3 bbls., and Slate Brothers' well on the Slate farm for 5 bbls.

In Green County, Curry and others have a gas well at a test on the Curry farm.

CENTRAL WEST FIELD

(Continued from Page 50)

ducing under pump the first 24 hours, 25 bbls. This same firm drilled No. 33 near the southwest corner of the L. Whitacre farm, Section 7, same township and struck a 50-bbl. natural producer. Top of sand in this venture was found rather deep, being in the dip, at 1,350 feet and went 150 feet in to a total depth of 1,500 feet. This shows a dip in the sand of 230 feet within a mile. Near Portage, in Plain Township, same county, the Ohio Oil Co. abandoned No. 24 on the A. C. McDonald No. 2 farm, Section 35. In Liberty Township, same company abandoned Nos. 1 and 2 J. W. Bernard, Section 8, and in Portage Township, did the same with Nos. 2 and 4 Buckeye Pipe Line Farm, and No. 1 Thomas Reese farm, Section 18. The Wayne Oil Co. is drilling No. 7 C. L. Sines farm, same section.

Wood County Pool

About 5 miles south from Perrysburg, in Perrysburg Township, Wood County, and east of the Dixie Highway from Toledo to Cincinnati, is a remarkable little pool that is in for quite an active drilling campaign. The Oko Oil & Gas Co. of Lima, has secured a block of acreage and is running a few strings of tools. This company's No. 2, on the Charles Thaiss farm, Section 29, is a 16-bbl. pumper, while No. 2 J. J. Heilman, Section 28, is a 6-bbl. pumper. No. 3 Charles Thaiss is drilling as is No. 5, on the Louisa Deverna, Section 29. In Lake Township, Charles F. Zeising and others' No. 1, near the southeast corner of the Elizabeth Thone farm, Section 26, is a 2-bbl. pumper with top of sand at 1,276 feet and drilled 45 feet in the sand. Lantz, Schulte and others are drilling their second well on the Fred Berndt farm, same section.

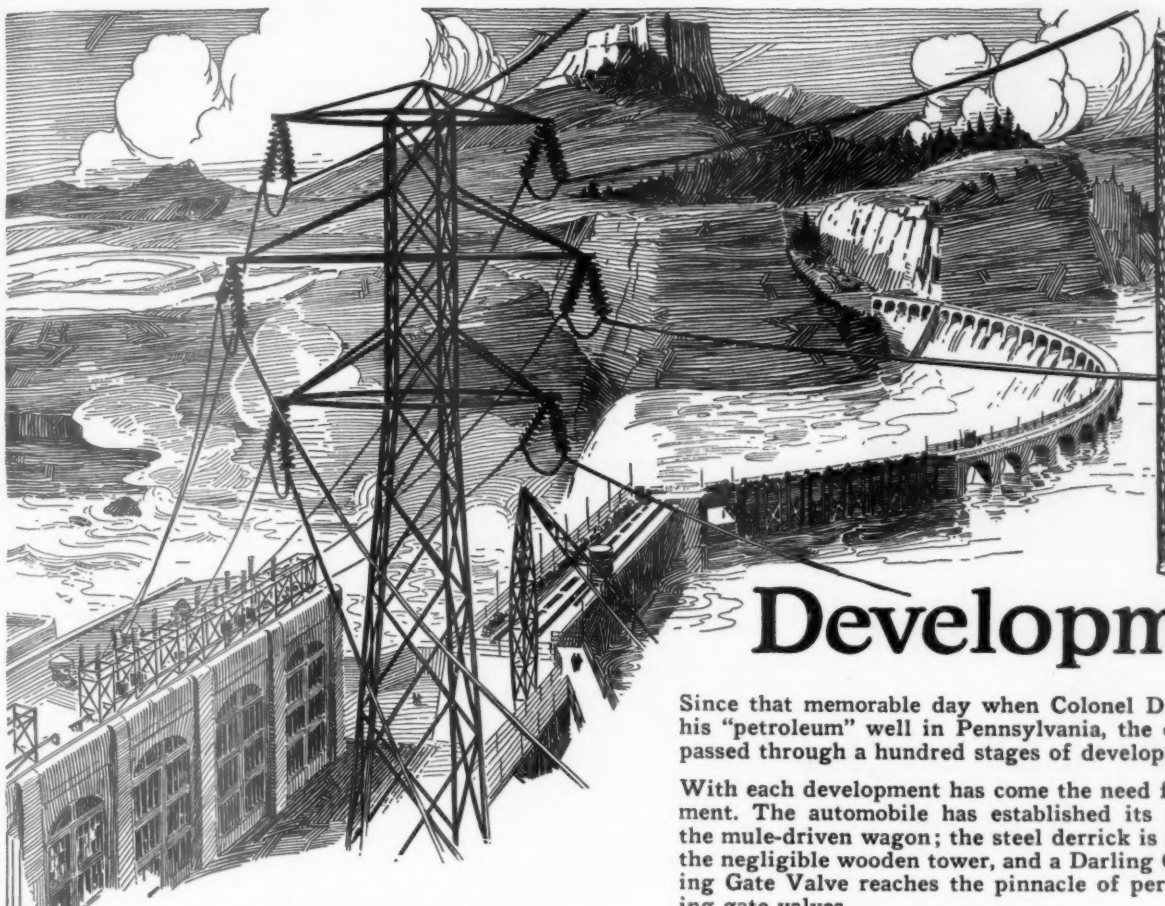
In Liberty Township, Hancock County, B. B. Porter's No. 3, on his own farm, better known as the Bish farm, Section 29, pumped 20 bbls. Sand topped at 1,280 feet and drilled to a total depth of 1,390 feet. The Ohio Oil Co. abandoned Nos. 9 and 10 George Vonstein farm, Section 11, and J. F. Montgomery is drilling No. 24 on the Sarah Fountain farm, Section 3. In Portage Township, the Ohio Oil Co. is drilling No. 6 on the Monerva Overholt farm, Section 22. In Marion Township, Donhoff Brothers are drilling No. 1 on the Elinor Spahr farm, Section 1. In Eagle Township, Star & Clark's No. 11, in the southwest corner of the Allice Stauffer farm, Section 6, pumped 5 bbls. at a total depth of 1,337 feet, top of sand being found at 1,312 feet. R. T. Rittenhouse is drilling No. 5 Frank Freed farm, and Harpst Brothers their No. 24 M. H. Deeds farm, both in Section 6. Harpst Brothers are drilling their No. 9, on another of the M. H. Deeds farms, in Section 12, Union Township, and in Biglick Township, the Ridge Oil & Gas Syndicate is drilling No. 2 Elinor Cross farm, Section 35. In Orange Township, W. E. Stephenson abandoned Nos. 2, 3, 4, 5, 6, 7, 8, 9, and 10 L. G. Gressley farm, Section 5.

In Allen County, Richland Township, Charles Shongood abandoned Nos. 6, 7, 8, 9, 10, 11, 12 and 13 J. M. Neiswander farm; Nos. 9, 10, 11, 12 and 13 Peter Neuenschwander farm, and Nos. 4, 5 and 6 John Rohrback farm, all in Section 26. In Spender Township, M. J. Lynch pulled out Nos. 1, 2, 3, 4, 5 and 10 William Severs farm, and Nos. 2, 3, and 4 Anthony Etzkorn farm, Section 13. In Marion Township, the Ohio Oil Co. abandoned No. 5 Henry Good farm and No. 3 J. A. Good farm, Section 11. Same company pulled out No. 1 H. D. Miller farm, Section 14, American Township. and in Jackson Township, did the same with Nos. 12, 13, 14, 15 and 16 W. J. Hall farm, Section 8.

In Mounton Township, Auglaize County, I. C. Robinson has a 3-bbl. well at a second test on the A. Sillin farm, Section 14, and H. F. Kelly & Co.'s No. 1 G. & E. Doering farm, Section 10, was a dry hole at 1,217 feet or 39 feet in the sand.

W. C. Richards and others' No. 4, on the A. E. Waggoner farm, Section 11, struck top of sand at 1,291 feet and drilled to a depth of 1,345 feet, the well being good for 8 bbls. This well is in Washington Township, Sandusky County. The Ohio Oil Co. is drilling No. 10 John H. Meyers farm, Section 30, same township, and Berlin & Russell estate abandoned No. 2 A. J. Meyers farm, Section 25. In Jackson Township, Haubert & Talbert are drilling No. 7 on the Martha A. Talbert farm, Section 17, and the Home Banking Co. is drilling No. 5 on the S. M. Klotz farm, Section 4.

In Mercer County, Butler Township, J. E. Bailey's No. 4, on the Joseph G. Wenning farm. Section 31, struck top of sand at 1,135 feet and drilled to a total depth of 1,190 feet, getting a 2-bbl. pumper. In Center Township, E. A. Kuhns and others abandoned Nos. 1 and 2 Jacob Didrick farm, and No. 2 Arthur Dick farm, Section 8. Drake and others are putting down a test on the George Bollinger farm, Section 5. The June Oil Co. is sinking a test on the Ben Hellworth farm, Section 21, Hopewell Township. Stelzer & Boyd are working at a test on the John U. Kennedy farm, Section 36, Union Township. Mack P. Colt and others abandoned Nos. 1, 2, 4, and 6 C. Griffin farm, and Nos. 1, 2, 3, and 4 Michael Deniston farm, Section 12. In Washington Township, Dilbone and others struck a fair gas volume at a test on the Mary Knoth farm, Section 34. Top of sand at 1,112 feet and drilled 38 feet in the sand. In Jefferson Township, northwest of Celina, D. A. Miller and



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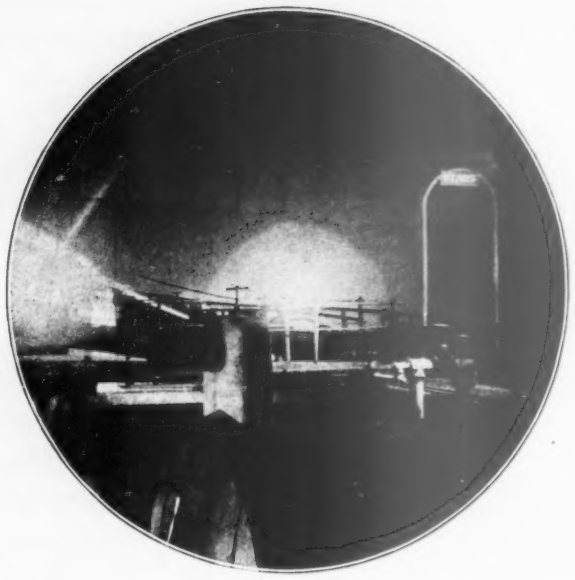

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others are drilling No. 5 Hacker heirs' farm, Section 33.

In Oregon Township, Lucas County, the Ohio Oil Co.'s No. 43, 700 feet from the south line and 1,100 feet from the west line of the Gertrude Niles farm, Section 27, pumped 18 bbls. Top of Trenton at 1,370 feet and drilled 76 feet in the sand. The Waterville Gas & Oil Co. is drilling No. 8 on the George Ward farm, Section 16, Monclova Township, same county.

In the Elmore Field, in Harris Township, Ottawa County, Gust Magsig and Son's No. 13 Charles F. Magsig farm, Section 23, pumped 15 bbls.

In Shelby County, McLean Township, L. T. McGrath's No. 3, on the Henry Ernst farm, Section 9, pumped 15 bbls. The Fort Laramie Oil & Gas Co. is drilling a test on the A. P. Rotterman farm, Section 3, and McGrath is drilling No. 4 Ernst farm. In Cynthian Township, the Wittmer property trustee, drilled in No. 5 on the Joe Siegel farm, Section 15, for a 5-bbl. pumper.

In the Roundhead Field of McDonel Township, Hardin County, the Roundhead Oil & Gas Co.'s No. 5, 1,000 feet from the north line and 300 feet from the south line of the Elizabeth Arthur farm, showed an initial production of 75 bbls. Top of sand at 1,452 feet and drilled 46 feet in the sand. No. 6, same farm, is drilling. The Hardin Oil & Gas Co., Inc. is drilling No. 6 A. R. Zimmerman farm, same field. The Cockley Oil Co. is drilling No. 2 Floyd Stalder farm, and the Boston-Southwestern Oil & Gas Co. is drilling No. 2 Ira C. Shick farm.

In Mississinewa Township, Darke County, the Cole Oil & Gas Co. is drilling No. 14 W. C. Disher farm, Section 16.

In the new development in Ridge Township, Wyandott County, the South Bend Producers Co. is drilling No. 1 on the S. B. Chesbrough farm, Section 12, and the Ohio Oil Co. is drilling a test on the G. Tong farm, Section 13.

Indiana

It has been a number of years since any development work was done in the Peru Field of Salamonie Township, Huntington County, in the old Trenton rock area of Indiana, and the bringing in of a well in that old territory is interesting, especially as it is on an old lease that has produced for many years. It is the March Petroleum Co.'s No. 28 on the Calvin Perdu farm, Section 20, and showed a production of 20 bbls.

In Bear Creek Township, Jay County, the Central West Oil & Gas Co.'s second well on the L. D. Bone and others' farm, Section 10, is reported good for 5 bbls. In Harrison Township, Blackford County, the Montpelier Development Co. is drilling a second well on the A. F. Gerard farm, Section 1.

In Wabash Township, Adams County, the Chicago Oil Co.'s No. 2, on the Armstrong heirs' farm, Section 35, was a duster. In Monroe Township, R. S. Anderson and others' test, on the Christ Stengle 90 acres, Section 30, is reported as a 2-bbl. well.

In Washington Township, Gibson County, Charles D. Stroble, trustee, drilled in a dry hole in No. 3 on the Willmer Canniff farm, Section 29, at a depth of 1,710 feet. In Center Township, the Ohio Oil Co. is drilling a test on the A. J. Maus farm, Section 16.

In Pike County, Madison Township, the Ohio Oil Co. is drilling a second well on the A. H. Johnson farm, Section 35. In Clay Township, the Murphy Oil Co. is drilling Nos. 5 and 6 Stewart Brothers farm, Section 12, and A. B. Bement is doing the same at a test on the Charles McAtee farm, same section. In Logan Township, the Wiser Oil Co. is starting a test on the Erna Wilson farm, Section 13, and J. Morsey and others are drilling Nos. 1 and 2 on the William Miley farm, Section 14.

In Turman Township, Sullivan County, the Harden Oil Co.'s No. 2 Cordia Willis farm, Section 12, is a 1-bbl. pumper at 777 feet. The Ohio Oil Co. is drilling No. 12 on the W. W. Harris farm, Section 1. In Fairbanks Township, the Ohio Oil Co. is drilling No. 22 J. V. Merrill farm, Section 35, and in Gill Township, Fred Bays is drilling No. 1 G. Irwin, Section 1.

Illinois

In the Allendale Field of Wabash County, the No. 6 well on the Kogan heirs' farm, owned by Mayhugh and others, in Section 2, is estimated at 200 bbls. initial production, while the Adams Corner Oil Co.'s No. 8, on the Mack Madden farm, Section 7, is showing for 150 bbls. The Collison Farm Oil Co.'s No. 3, on the Collison heirs' farm, Section 14, is estimated at around 100 bbls. The Adams Corner Oil Co.'s No. 6, on the J. T. Smith farm, Section 22, is good for 58 bbls. initial production at 1,530 feet. Joe S. Young and others' No. 2, on the J. G. Trimble farm, Section 35, is good for 15 bbls. at 1,403 feet and is a mile or so north of Allendale. Snowden & McSweeney's No. 1 Trimble, same section, was dry at 1,500 feet.

In Johnson Township, Clark County, the Ohio Oil Co.'s No. 6 C. H. Ring farm, Section 26, produced 10 bbls. the first 24 hours at 653 feet. The Southern Oil Co. is drilling No. 33 C. O. Gross No. 2 farm, Section 23.

In Honey Creek Township, Crawford County, John Phipps' No. 4 J. D. Reaville farm, Section 31, pumped 2 bbls., and No. 6, same farm, is drilling. No. 5, same farm, was a dry hole at 995 feet. Barber and others are drilling No. 1 J. L. Cullom, Section 17. L. C. McDowell and others abandoned Nos. 3 and 4 Oliver Lawrence farm, Section 7, and Karnes & Schrecongest did the same with Nos. 1, 2 and 3 S. S. Reinohl farm, Section 31. In Prairie Township, D. D. Nolan's No. 14 John T. Newlin farm, Section 35, was dry at 1,065 feet, while the Ohio Oil Co.'s No. 19 C. E. Price, Section 5, pumped 10 bbls.

In Dennison Township, Lawrence County, the Ohio Oil Co. is drilling No. 6 William Gillespie farm, Section 11; No. 6 Victor B. Harling 38 acres, Section 11 and No. 7 Ellen Lutz, Section 21. In Petty Township, the Pemberton Oil & Gas Co.'s No. 25, on the W. M. Pemberton farm, Section 30, pumped 35 bbls. from a depth of 1,487 feet.

In Martinsville Township, Clark County, the Ohio Oil Co. is drilling No. 5 A. W. Covolt farm, Section 31, and the Trenton Rock Oil & Gas Co. is doing the same at No. 9 E. R. Ault, Section 30.

EASTERN FIELDS

(Continued from Page 52)

has completed a test on the James Bard farm and dry at a total depth of 2,490 feet. In the same district, the Mill Fork Oil & Gas Co. is drilling at 1,400 feet on the W. B. Snodgrass farm. In Otter district, the Pittsburgh & West Virginia Gas Co. is drilling a second test on the Bennett heirs' farm. The same company is rigging up at a test on the Sarah M. Coree farm. In Courthouse district, Lewis County, the Tomahawk Oil & Gas Co. has a rig up on the J. B. Brown farm. In Birch district, Braxton County, the Pittsburgh & West Virginia Gas Co. is drilling at 1,230 feet on the Sarah Dollings farm. In the same district, the Ohio Fuel Oil Co. has a duster at a test on the E. W. Miller farm.

Ritchie County

On Hughes River, Murphy district, Ritchie County, the Cain Run Oil & Gas Co. has completed in the Big Injun sand No. 4 on the K. Prunty farm good for 7 bbls. a day. In Smithfield district, Roane County, H. Sutter and others have completed in the same formation a test on the John Young farm. It is a gasser good for 500,000 feet.

Drilling Tests

In Carroll district, Lincoln County, the Columbia Gas & Electric Co. has started to drill a test on the George and Walter Chambers farm. In the same district, the Grant Gas Co. has part of the rig material at a location on the Everett and P. Vickers farm. In Duval district E. R. Cameron is moving tools to a location on the G. D. Alderman farm. He has also part of the rig timbers at locations for Nos. 2 and 3 on the same farm. In Union district, Roy & Mc-

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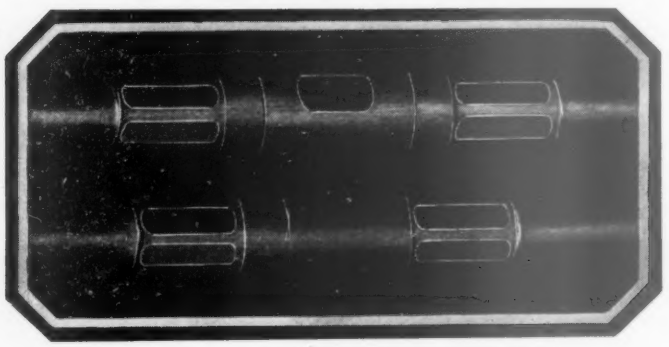

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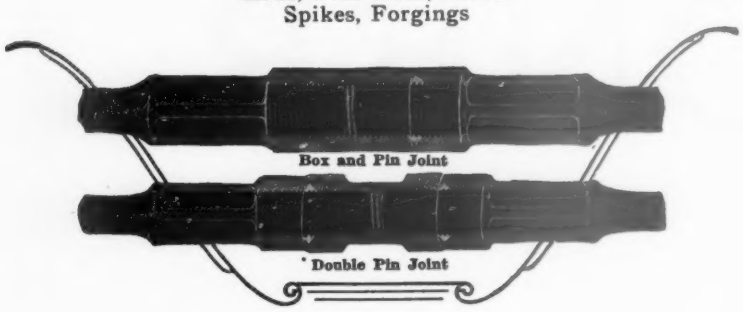

Comas are building a rig on the Randolph Sias farm.

In Freemans Creek district, Lewis County, the Pittsburgh & West Virginia Gas Co. is hauling rig material to a location on the Lillie Brannon farm. In New Milton district, Doddridge County, the Manufacturers Light & Heat Co. has rig material at a location on the Henry Shouse farm. In Murphy district, Ritchie County, the Hope Natural Gas Co. is rigging up on the C. B. Nutter farm.

In Geary district, Roane County, the United Fuel Gas Co. has started to drill tests on the Mary F. Taylor, G. W. Gandee and S. R. Tawney farms. In Smithfield district, Douglass Brothers have trouble with the casing at a second test on the P. C. Adams farm. In Reedy district, the Heck Oil Co. started to drill another test on the B. F. Warren farm.

In Clay district, Wetzel County, he Manufacturers Light & Heat Co. is due in the Gordon sand on the Esther E. Fox farm. In Center district, the Hope Natural Gas Co. is fishing on the Elmus Miller farm. In Liberty district, Marshall County, the Denver Oil & Gas Co. has a rig up on the Margaret Campbell farm.

Southeastern Ohio

In the old Corning Field, Section 12, Monroe Township, Perry County, John Denman & Son have a 4-bbl. pumper at No. 22 on the Annie and Mary McGowan farm. In Section 15, Athens Township, Athens County, Clarke & Co. have completed in the Berea grit a test on the A. Jones farm. It is showing light and they are undecided wether it will make a paying producer.

On Newells run, Section 4, Newport Township, Washington County, F. E. Lawrence and others have completed a test on the Clayton Rowland farm. It is a duster in the first Cow Run sand. In Section 11, Rush Creek Township, Fairfield County, Roy Nixon and others are drilling for gas in the Berea grit at a test on the F. M. Kittle farm. In Hopewell Township, Licking County, the Planet Oil Co. is drilling another test on the P. L. Glazier farm. In Section 10, same township, Pure Oil Co. is drilling No. 3 on the A. O. Michael farm. In the same township, J. H. Sole & Co. are drilling a second test on the William Coome farm. In Hopewell Township, Muskingum County, the A. H. Heisey Co. is drilling a second test on the A. O. Michael farm.

In Lot 24, Newton Township, Licking County, the Ohio Fuel Supply Co. has a better than average well in the Berea grit at No. 4 on the Ellen E. Forry farm. The well produced 45 bbls. the first 24 hours after shot. In Lot 9, same township, E. J. Edmonds & Co. have an 18-bbl. pumper in the same formation at No. 8 on the Robert Stair farm.

Very Light Pumper

In Lot 12, Newton Township, Licking County, I. J. Denbow & Co. has a very light pumper in the Berea grit at No. 7 on the Carey Weiss farm. In the Junction City district, in the southwest quarter of Section 20, Harrison Township, Perry County, Leonard & Sturm have a show for a 15-bbl. pumper in the Clinton sand at a test on the Fripel heirs' farm.

In the northwest quarter of Section 12, Harrison Township, Perry County, Cline Brothers have completed a test on the J. W. Guy farm. It is a duster in the Clinton sand at a total depth of 3,560 feet. In Monroe Township, Section 8, Harrison County, S. M. Elliott has completed a test on the Patterson Brothers farm. It is a very light gasser in the Berea grit. In Lot 288, Sutton Township, Meigs County, the Pennsylvania Berea Co. has started to drill a test on the Hannah M. Capehart form.

Late Completions

The southeastern Ohio fields rounded out the week of development work by completing light wells. In Section 6, Hopewell Township, Muskingum County, M. F. Whitehill's second test on the Boyer farm is a 500,000-foot gasser in the Clinton sand. In Lot 6, Monroe Township, Holmes County, the Empire Gas & Fuel Co. completed a test on the Oscar Steel farm. It is a gasser in the same formation good for 1,500,000 feet.

In the northwest quarter of Section 30, North Township, Harrison County, the Mitchell-Smylie Oil Co., Ltd., completed a 3-bbl. pumper in the Berea grit at No. 11 on the George Jamison farm. In Section 25, Bethel Township, Monroe County, Forrest Simmons and others have completed a second test on the Priscilla Adams farm. It is a duster in the Big Injun sand. In Section 14, Monroe Township, Perry County, Marshall & Marshall are drilling on the Donahue farm.

In the southeast quarter of Section 28, Yory Township, Morgan County, the Pure Oil Co. has completed No. 7 on the R. E. Hughes farm. It is a 5-bbl. pumper. In Lot 288, Sutton Township, Meigs County, the Pennsylvania Berea Co. has drilled a test on the Hannah M. Capehart farm into the Cow Run sand. It is a gasser good for 1,500,000 feet.

In the northeast quarter of Section 22, Seneca Township, Noble County, the Ohio Fuel Supply Co.'s test on the Sarah Watson farm is a gasser in the Berea grit. In Lot 1,217, Sutton Township, Meigs County, the Pure Oil Co. has started to drill on the Yost heirs' farm.

In Fallsbury Township, in the southwest quarter of Section 1, the Goshen Oil Co. completed and shot in the Berea grit a test on the C. E. Vanwinkle farm good for 18 bbls. a day.

Licking County

In Section 15, Franklin Township, Licking County, the Pat Oil Co. has completed in the Berea grit a second test on the R. L. Tavener farm and not good for more than 2 bbls. a day. In the southwest quarter of Section 21, Jackson Township, Knox County, the Arkansas Fuel Oil Co. has completed a second test on the Harry R. Hall farm. It is good for 7 bbls. a day in the Berea grit.

In the northeast quarter of Section 25, Hopewell Township, Licking County, the Flint Ridge Oil & Gas Co. has completed and shot in the Clinton sand No. 6 on the J. E. Armstrong farm. It produced 85 bbls. the first 24 hours. In the northwest quarter of Section 5, Madison Township, Perry County, the Mid East Oil Co. has completed in the same formation a test on the Daniel Snider farm. It was given a shot and is good for 5 or 6 bbls. a day.

In the southeast quarter of Section 21, Fallsbury Township, Licking County, the Leonard Oil & Gas Co. completed in the Berea grit No. 6 on the Myers & Co. farm good for 12 bbls. a day. The Ohio Oil Co. has completed a test on the Guy Myers farm, Section 2, Monroe Township, Coshocton County. It is a duster in the Clinton sand.

In the northwest quarter of Section 23, Ward Township, Hocking County, the Sunday Creek Coal Co. completed and shot in the Clinton sand No. 137 on its own property and not good for more than 10 bbls. a day. In the southwest quarter of Section 14, Washington Township, the Gordon Oil Co. has completed No. 5 on the George Anthony farm. It is dry in the Clinton sand at a total depth of 2,913 feet.

Southwest Pennsylvania

In Washington Township, Greene County, the Philadelphia Oil Co. has completed and shot in the 50-foot sand a second test on the John Pettit farm showing for a 5-bbl. pumper. In Perry Township, the Peoples Natural Gas Co. completed a test on the J. V. Murriner farm. It is a fair gasser in the Gordon sand. In the same township, the Carnegie Natural Gas Co. has a very light show of oil in the same formation at a test on the F. M. Haines farm. The same company has a good gasser in the salt sand at a test on the L. Wright farm at a total depth of 1,596 feet.

In Whitely Township, Greene County, the Carnegie Natural Gas Co.'s test on the Charles Bowers farm is a fair gasser in the Big Injun sand. In Perry Township, the same company has a fair gasser in the same formation at a test on the J. S. Kennedy farm. In Dunkard Township, J. L. Garard has a gasser in the

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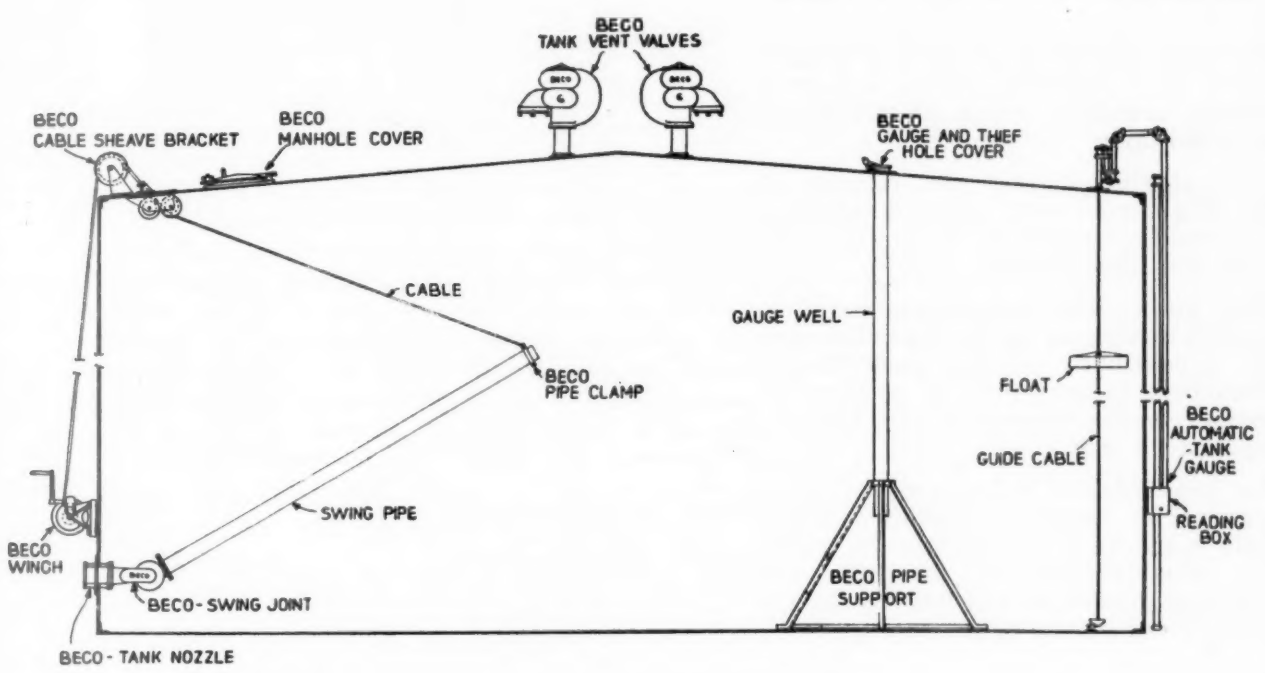

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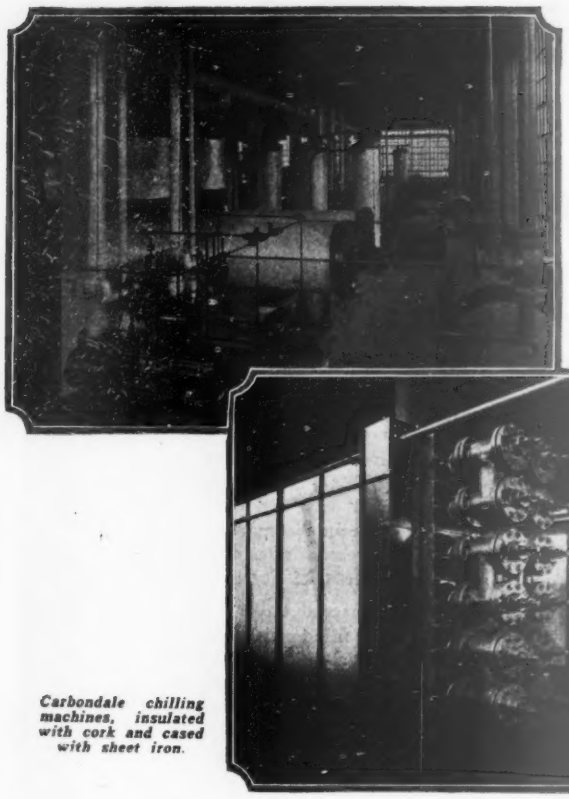

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Carbondale chilling machines, insulated with cork and cased with sheet iron.

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Carbondale Refrigeration
CARMACO *for Refiners*

gas sand at No. 5 on the James Sickelsmith farm.

In Richhill Township, Greene County, the Carnegie Natural Gas Co.'s test on the Dora Shape farm is dry and abandoned. In the same township, the same company's No. 6 on the Albert Lyon farm is a gasser in the Big Injun sand good for 1,210,000 feet.

In Aleppo Township, Guy Patterson's test on the W. P. Grim farm, is a small gasser in the Gordon sand. In Richhill Township, the Natural Gas Co. of West Virginia has a 10-bbl. pumper at a test on the Samuel Smith farm.

In Richhill Township, the Natural Gas Co. of West Virginia has drilled its old No. 5 on the S. S. and C. M. Smith farm, deeper, showing for a light pumper. It was formerly a gasser in the Big Injun sand. On Pettit Run, Washington Township, the Philadelphia Oil Co. has completed No. 3 on the John Pettit farm good for 30 bbls. a day in the 50-foot sand.

Duster in Beaver County

In Ohio Township, Beaver County, George L. Dawson & Co. have drilled through and shot in the Berea grit No. 3 on the George L. Dawson farm. A very little oil was developed and they are undecided as to trying to make it produce.

In Gilmore Township, Greene County, the Manufacturers Light & Heat Co. has completed a second test on the Mrs. Henry Hennen farm. It is a light gasser in the 30-foot sand. In Wayne Township, the South Penn Oil Co. has drilled No. 9 on the William Lantz farm, an old well, from the fourth to the Bayard sand. It is a fair gasser in the lower formation.

Greene County Gauges

Some of the older wells in Morris Township, are showing good staying qualities. The Consumers Fuel Gas Co.'s Nos. 2, 3 and 4 on the T. F. Rutan farm, completed several months ago, are holding up at 180, 306 and 60 bbls. a day, respectively. The same company's test on the Alfred Rutan farm, completed several weeks ago, is still producing 125 bbls. a day.

CALIFORNIA OIL FIELD OPERATIONS FOR JUNE, 1926

According to figures collected by the American Petroleum Institute, Pacific Coast office, the total production of crude oil in California for June amounted to 18,269,417 bbls., an average of 608,981 bbls. per day. This is an increase of 6,815 bbls. per day over May production.

Total stocks of crude and all products in Pacific Coast territory decreased during the month 1,219,129 bbls. The total stocks at the end of the month were 150,514,360 bbls. The total stock decrease for 1926 up to June 30 was 6,801,949 bbls. Comparative figures as of June 30, 1926, May 31, 1926, and June 30, 1925, are shown in detail.

Sixty-seven wells were completed during the month with an initial daily production of 30,346 bbls., compared with 58 wells completed during May with an initial production of 15,738 bbls.

PRODUCTION

(Figures of production and stocks are in barrels of 42 gallons.)

District—	Barrels per Month	Daily Average June, 1926	Daily Average May, 1926	Daily Average June, 1925
Kern River	351,564	11,719	11,914	17,624
McKittrick	160,738	5,358	5,381	5,759
Midway-Sunset	2,816,660	93,889	94,323	102,282
Elk Hills	1,054,554	35,152	33,609	35,705
Lost Hills-Belridge	141,442	4,715	4,603	4,840
Coalinga	615,297	20,510	20,288	20,906
Wheeler Ridge	31,872	1,062	937	842
Watsonville	1,725	57	57	58
Santa Maria	154,527	5,151	5,083	7,311
Summerland	3,855	129	128	129
Ventura Avenue	1,207,446	40,248	32,867	18,293
Ventura-Newhall	191,165	6,372	5,980	6,110
Los Angeles-Salt Lake	53,966	1,799	1,794	1,999
Whittier	62,044	2,068	2,121	1,949
Fullerton	514,501	17,150	17,476	11,342
Coyote	501,659	16,722	16,885	20,836
Santa Fe Springs	1,454,742	48,491	48,272	53,077
Montebello	552,605	18,420	17,912	18 869
Richfield	422,093	14,070	12,975	11,988
Huntington Beach	1,301,927	43,397	43,982	43,848
Long Beach	3,192,978	106,433	106,672	107,247
Torrance	873,082	29,102	29,924	36,924
Dominguez	616,075	20,536	21,053	32,032
Rosecrans	506,041	16,868	16,589	22,335
Inglewood	1,484,361	49,479	51,252	62,605
Newport	2,498	83	86	128
Total	18,269,417	608,981	602,166	642,938
May	18,667,144	602,166		
Increase	397,727*	6,815		

*Decrease

SUMMARY OF CALIFORNIA OIL FIELD OPERATIONS FOR JUNE, 1926

	STOCKS June 30, 1926	May 31, 1926	June Stock Decreases	June 30, 1925
Heavy Crude, heavier than 20 degrees A.P.I., including all grades of fuel	89,074,507	88,475,401	*599,106	68,585,073
Refinable Crude, 20 degrees A. P. I., and lighter	35,340,238	37,044,292	1,704,054	44,577,671
Gasoline	10,766,007	10,804,022	38,015	10,406,430
Naphtha Distillates	5,213,043	5,184,540	*28,503	6,293,472
All Other Stocks	10,120,565	10,325,234	104,669	9,370,537
Total all stocks	150,514,360	151,735,489	1,219,129	139,233,183

DEVELOPMENT

District—	New Rigs Up	Active Drill'g	Comp.	Daily Initial Output	Active Prod'g	Abd. Wells Drlrs.	Abd. Wells Prdrs.
Kern River	..	6	3	235	1,444	..	..
McKittrick	1	6	1	15	303	..	..
Midway-Sunset	5	47	9	1,698	2,947	..	..
Elk Hills	..	1	..	.....	248	..	..
Lost Hills-Belridge	..	3	..	.....	309	..	..
Coalinga	..	6	2	152	964	..	4
Wheeler Ridge	..	..	..	.....	24	..	..
Watsonville	..	..	..	.....	6	..	..
Santa Maria	..	6	..	.....	232	3	2
Summerland	..	..	..	.....	135	..	..
Ventura Avenue	7	24	6	16,473	63	..	..
Ventura-Newhall	5	32	1	130	522	1	..
Los Angeles-Salt Lake	..	..	..	.....	376	..	..
Whittier	2	6	1	20	189	..	..
Fullerton	2	19	..	.....	429	..	..
Coyote	..	1	..	.....	214	..	..
Santa Fe Springs	..	..	1	688	352	..	..
Montebello	1	6	7	878	178	..	..
Richfield	3	16	..	.....	186	..	..
Huntington Beach	1	10	3	775	354	..	..
Long Beach	4	41	17	5,587	782	3	..
Torrance	6	6	8	946	647	..	1
Dominguez	..	4	2	390	70	..	..
Rosecrans	4	5	3	1,902	126	2	..
Inglewood	2	3	3	457	195	..	..
Newport	1	4	..	.....	10	..	..
Miscellaneous drilling	4	112	..	.....	.....	4	..
June	48	364	67	30,346	11,305	13	7
May	78	394	58	15,738	11,437	35	44
Decrease	30	30	*9	*14,608	132	22	37
Average for year 1925	105	417	79	42,247	11,393	28	12
Average for year 1924	103	510	103	42,412	10,903	28	21
Average for year 1923	111	759	82	114,690	8,928	24	
Average for year 1922	115	605	67	43,700	9,410	17	
Average for year 1921	90	536	57	15,631	9,425	14	

*Increase.

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New and Improved

The Lucey Heavy Duty 66" Traveling Block with 30" sheaves for 1⅛" wire line.

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The tough characteristics of these special industrial bearings are just right to overcome the characteristic toughness of the jobs which blocks, clutches and winches have to handle. That's why American Rollers have become

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1613

Naval Oil Reserve Revenue to Be Turned Into U. S. Treasury

By Charles E. Kern

WASHINGTON, D. C., Aug. 1.—A plan to turn into the United States Treasury receipts as and when they accrue from the naval reserve oil leases will be presented in the near future to United States District Judge Paul J. McCormick by the two receivers of the Naval Oil Reserves Nos. 1 and 2. This is to take the place of the present arrangement whereby the funds received are invested in Liberty bonds and deposited in banks in Los Angeles. The object of the plan is to give the Treasury the use of funds which are constantly accruing and over which there is no dispute.

On September 1, 1926, there will have accumulated the sum of $3,500,000. Thereafter there will be a monthly royalty due amounting to about $250,000. If the proposed plan is approved by Judge McCormick, this money will be paid directly into the treasury as soon as it is turned over to the receivers.

The plan will be presented to Judge McCormick in the form of a stipulation to be prepared and agreed upon by the respective counsel for the plaintiff and the defendants. Counsel for the plaintiff, the United States, are Messrs. Pomerene and Roberts. Counsel for the defendants, the Pan American Petroleum Co., are Messrs. Kellogg and Hogan. The change in the manner of the disposal of the royalties was suggested by Secretary of the Navy Curtis D. Wilbur. In as much as none of the money is in dispute, and its disposition cannot be affected by any decision of the United States Supreme Court when the case is brought before it for final settlement on October 4, 1926, it was considered by the secretary of the navy to be a more satisfactory arrangement to make the money available for the use of the treasury instead of having it simply invested in Liberty bonds. Both receivers, Rear Admiral H. H. Rousseau for the Government and J. Crampton Anderson for the Pan American Petroleum Co. are in agreement with the plan.

The monthly royalties amounting to $250,000 proceed from the Naval Oil Reserves Nos. 1 and 2 located in California. Receivers were appointed for Reserve No. 1 on March 24, 1924. Three leases are covered by this receivership which amount to a total of about 30,000 acres. Of the total production from these leases, amounting to about 4,000 bbls. of oil per day, a certain amount accrues to the United States as royalties, no matter how the litigation is decided by the United States Supreme Court. These royalties amount to about $25,000 per month.

Since October 1, 1925, the royalty production from all other leases in Naval Reserves Nos. 1 and 2 is also payable, by order of court, to the receivers. This amount, about $225,000 a month, is not in dispute. The total amount $250,000 per month, will have amounted to $3,500,000 from October 1, 1925, until September 1, 1926. Before October, 1925, the royalty production of $225,000 per month was used to pay for the construction of the Navy oil tanks at Pearl Harbor. These tanks were constructed by the Pan American Petroleum Co., and were paid for by October 1, 1925.

It is estimated that, if the receivership continues until the end of the present calendar year, (1926), the total amount to be turned in to the treasury by December 31, will be $4,500,000.

OIL TANKER CHANGES

WASHINGTON, D. C., Aug. 1.—On July 1, 1925, 131 American oil tankers were engaged in foreign trade against 115 July 1, 1926. The United States Shipping Board giving this information states that the decrease in number of tankers is due to the decline in import of Mexicon crude oil and the transfer of the oil carriers formerly employed in that traffic to coastwise trade and the transport of California crude oil to the Atlantic and Gulf coasts.

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It speeds drilling by reducing delays for repairs. It reduces repair expense and also saves oil.

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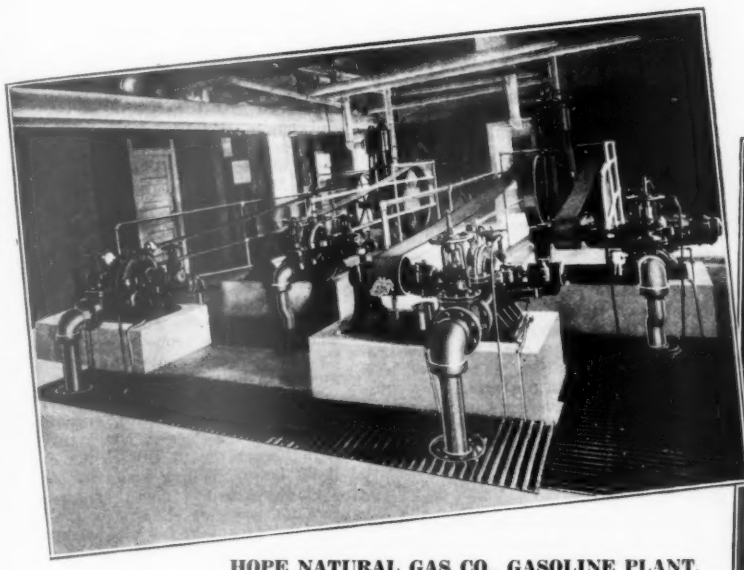

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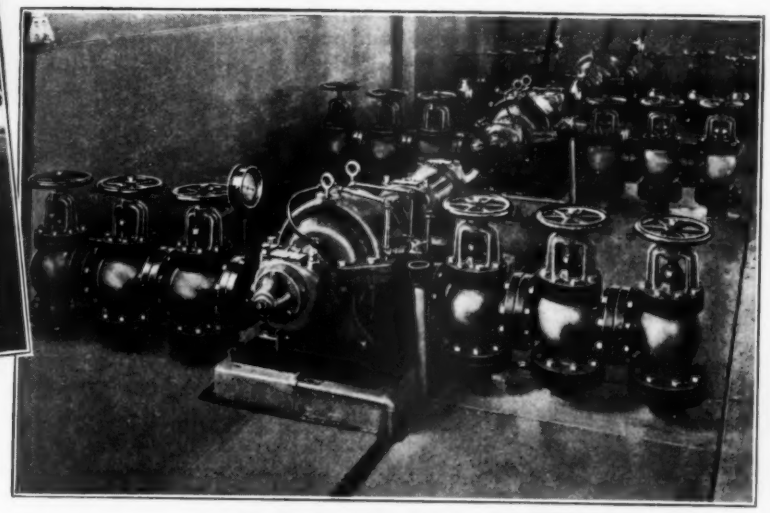

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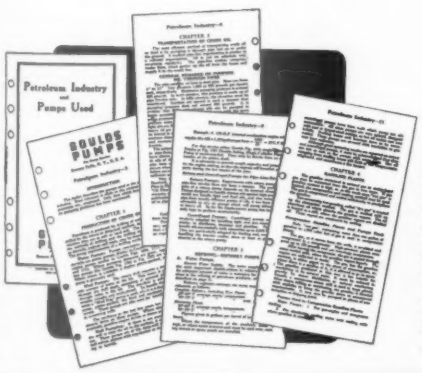

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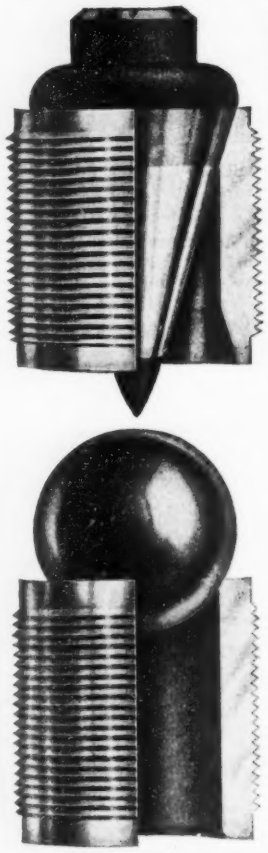

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The following chart shows the exact percentage of increased fluid passage of Sargent Valves over valves of standard size.

Pump Size	Regular Size Inside Dia.	Sargent Oversize Inside Dia.	Per Cent Increase
3 "	13/16"	1 "	51.4
2½"	1 "	1⅛"	56.2
3 "	1¼"	1½"	43.9
4 "	1¾"	2¼"	65.3

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PIPE MILLS REPORT BIGGEST YEAR IN OIL COUNTRY GOODS BUSINESS

By B. E. V. Luty

PITTSBURGH, Pa., Aug. 2.—In standard pipe and oil country goods generally, excepting line pipe, business has been coming to the pipe mills in recent weeks at as heavy a rate as formerly. The situation is judged best by delivery promises on new orders and specifications which has been shortening a trifle with mills that booked the greater part of the line pipe business that was going around some time ago, and are practically unchanged with mills that have not had much line pipe business.

Current deliveries on old line pipe orders are as heavy as ever, but some of the orders will be completed this month. On casing and well material generally mills are now promising shipment in four to six weeks on new business, but as a rule they can generally make delivery in about four weeks.

All told, this is by far the biggest year in old country goods the pipe mills have ever had. The large tonnage is ascribed to two separate influences, the large number of wells being drilled, and the greater depth of wells in many cases.

Mills Near Capacity

Merchant pipe demand upon the mills keeps up at a heavy rate, very nearly equal to the capacity. Business is unusually active for the time of year, this being the result of jobbers not having accumulated stocks early in the year as they used to do, then liquidating stocks in summer. Demand upon the mills now is equal to the actual consumption, which is large on account of building operations being so active over nearly the whole country.

Generally speaking the pipe mills are operating at capacity. Practically all the lap weld furnaces are running except such as must be off for repairs, and very nearly all the butt weld furnaces. A portion of the capacity that is considered merely reserve capacity, in more or less obsolete plants, is in operation. For the pipe industry as a whole the current operation is estimated at fully 90 per cent, which means a record high tonnage production, present capacity being considerably above that of two years and more ago.

This year will in all probability make a new high record in pipe mill production generally, and in oil country goods in particular. Last year was a record year in steel but not in tubular goods, drilling having been light.

Tubular Goods Growth

An interesting comparison may be made of the increase in production of all classes of tubular goods from 1913 to 1925. The total of welded tubular goods increased in the 12 years by 35.0 per cent, from 2,245,532 gross tons to 3,030,541 gross tons. Oil country goods increased only 21.0 per cent, on account of 1925 being an off year, amounting in that year to 1,018,302 gross tons. Black standard pipe increased 48.4 per per cent, to 1,232,375 gross tons and galvanized standard pipe 105.5 per cent, to 548,567 gross tons.

Seamless steel tubing had a remarkable percentage growth, 423.4 per cent, from 108,567 gross tons in 1913 to 568,190 gross tons in 1925. Seamless has largely replaced welded in boiler tubes and there is growing use of seamless in the oil and gas fields, particularly for rotary drilling, but there are no separate production statistics of seamless oil country goods.

Cast iron pipe and fittings increased from 1,130,576 gross tons in 1913 to 2,075,042 gross tons in 1925, or by 83.5 per cent. The total of all tubular goods, welded iron and steel, seamless steel and cast iron, increased from 3,484,675 gross tons in 1913 to 5,673,773 gross tons in 1925, or 62.8 per cent.

The steel situation in general has shown no material change in the past two or three weeks. Buying has continued heavy, though perhaps not altogether up to the June rate, while mill operations were approximately as heavy in July as in June, this being quite contrary to precedents as July almost invariably shows a dip. Steel production in the two months was at about 80 per cent of capacity.

SAN JUAN FIELD

(Continued from Page 48)

expected that the Picture Cliff sand which is the objective, will be encountered within another 100 feet.

The Union Oil & Mining Co., operating in the Blanco district, 20 miles east of Farmington, Section 8-29-9, encountered a caving formation at 860 feet and has had to run 8-inch casing to that depth and will underream and figures it will have to lower it to about 1,000 feet. The company anticipates production in the Farmington sands. The well was visited this week by Ed Holland, field manager for the company, and F. P. Menager, its secretary-treasurer. Both stated the well would be pushed to production as rapidly as the contractors could do the work.

Mancos Structure

The Ute Consolidated Oil Corp., operating on the Mancos structure, lost a string of tools while underreaming to lower the casing to shut out the water, and has a fishing job on hand. This was done after oil had been tapped at a depth of 780 feet and the water flow was some 30 feet higher in the well. The fishing job is not considered serious. This structure is on unsurveyed lands 19 miles north of Shiprock.

The Portage Oil & Gas Syndicate is still in the hard luck stage. After a long, annoying battle with caving it got the water shut out and resumed drilling when the water broke through and froze the tools in the hole and it has been unable to move them since.

The Congress Oil Co. operating in the Kutz Canon district, encountered a flow of gas so heavy last week it was found necessary to run casing and shut it off before drilling could be continued. It has reached a depth of about 1,660 feet and is highly elated over the gas flow and the prospects for oil. So promising is the showing that two other parties are arranging to enter this section as soon as contracts can be closed and rigs got on the ground. The Congress well is about 12 miles southeast of Farmington, and is on Garland permit, Section 34-29-11.

The Erdman well on the Red Mesa structure finally decided not to attempt to drill any deeper although many doubt its having reached the Dakota sands when the salt water flow was encountered. They are plugging back to 3,407 feet where it is the intention to try to get commercial production. This location is Section 23-33-12.

The Hall well on the Red Mesa structure, 1 mile east of Marvel, Section 13-33-12, has completed running 5¾-inch casing and is again drilling. The oil and gas encountered last week and which threw oil over the top of the derrick was in a shallow sand and it is believed it was a stray sand above the Dakota. It is the intention to go down until a thicker sand has been tested out.

The E. J. Miley interests, drilling on the Red Mesa structure, Section 32-33-12, are nearing the 1,000-foot level and are running tower with a rig. They have one of the best sets of tools ever brought into the San Juan Basin and intend to test out the Dakota.

Bloomfield District

The Smith-Miley interests are having some difficulty over leases in the Bloomfield district that is stopping operations there for the present.

The Smith-Kittell refinery, located at Bloomfield, is refining from 10 to 25 bbls. per day. It is using the products of the Bloomfield wells and part of the production from the Huntington Park well.

Sunday was a Day of HORROR

No "Collegiate" or "Bananas" in the good old days — and one hint of the Charleston would have landed you in the hoosegow, pronto! Look 'em over today, if you've got the willpower—some change! Some change!

But speaking of changes—thirty-two years find Jones Sucker Rods still the best—still, as always, the finest, strongest, most dependable rods — quality makes friends, and Jones Rods has friends the world over, wherever there's oil.

Jones Sucker Rods—the forged end types—Giant and Perfect, are two rods you will like. Try them!

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Toledo, Ohio

JONES sucker rods

Put in McKim Gaskets and try them out.

If they are (in your opinion) worth the price, pay the bill.

If (on the other hand) you don't like them, there's no charge and no argument.

McKim Metallic Asbestos Gaskets—Pressure Heat and Chemical Proof.

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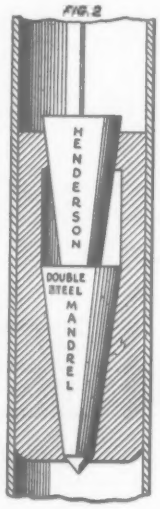
HENDERSON-DOUBLE-STEEL-MANDREL LEAD-PLUG

Patent Applied For

FIG. 1

Something new and superior to any plug on the market, in that the double mandrel will expand the lead body for its entire length, while a single cone mandrel type will expand the lead body only at the top. A little study of the cut which shows before and after will convince the practical producer of the advantage of the double mandrel.

FIG. 2



Manufactured by

The McJunkin Supply Company

Charleston, W. Va.

It is reported that several parties are preparing to enter the Gobenador district within the next 60 days. Among these are the Scofield Oil & Gas Co. of Bartlesville, Okla., Marstin & Snyder, representing Kansas City capitalists, and the Shields Valley Oil Co. of the Kevin-Sunburst district of Montana. Their scouts have been in the field and are said to have been pleased with what they found in that district.

At the term of District Court held last week in this county on petition of Joseph Vigliotti of Detroit, Mich., and C. L. Munsinger of Farmington, W. H. Graham was appointed receiver of the Coal Creek Oil Co. Judge C. E. McHugh, president of the company, has been in California for some time.

The new oil rate over the Santa Fe Railroad from Gallup to the Gulf of Mexico has been approved by the Interstate Commerce Commission and will become effective August 6, after which date regular shipments through the new 92-mile pipeline will begin.

Two stills weighing 16 tons each have been landed at the Rattlesnake camp and will be used to top the gas before it is forced back into the oil producing sands. The plant for this purpose on this structure is nearly completed.

FREIGHT RATE PROTEST BY DRILLING CONCERN

By Charles E. Kern

WASHINGTON, D. C., July 31.—Dyer Brothers, a partnership composed of F. L. Dyer and O. W. Dyer, domiciled at Shreveport, La., and engaged in the business of drilling oil wells, has filed a complaint against the Missouri Pacific Railroad Co. and others, with the Interstate Commerce Commission, charging a violation of Sections 1 and 3 of the act to regulate commerce. Complainant shipped from Norphlet, Ark., on December 4, 1924, one carload of second-hand oil well boring machinery, one steam boiler and one power pump, to the Republic Supply Co., at Mexia, Tex. Freight charges were levied on a basis of 80.5 cents on the well boring machinery, $1.60 on the boiler and $1.88½ on the pump. Effective February 10, 1925, well boring outfits were eliminated from consolidated classification and were included under the head of oil well supplies. On that date a rating of 80.5 cents was established on oil well supplies without any restriction of the number of boilers or power pumps that could be included in a well boring outfit which would make the total charge $582.82. The complainant asks that the commission take proper action.

BIDS ON OIL LEASES

The commissioners of the land office of the State of Oklahoma will receive sealed bids until 2 o'clock p. m., August 10, for oil and gas leases on school and state lands, as follows:

Kay County—Lot 2 of NE of Section 36-28n-3e, 14.25 acres; Lots 3 and 4 of SE of Section 36-28n 3e, 70.50 acres; Lot 1 and NW of NW, S half of NW, Section 36-28n-3e, 157 acres.

Lincoln County—NE of Section 16 13n-4e, 160 acres; SE of Section 16-13n-4e. 160 acres; SW of Section 16-13n-4e, 160 acres.

Logan County—NE of Section 36-17n-2w, 160 acres; SE of 36-17n-2w, 160 acres.

Bids will be received until 2 p. m., August 17, as follows:

Pawnee County—SE of Section 36-21n-4e, 160 acres.

Lincoln County — NW of Section 16-15n-5e, 157 acres; SW of Section 16-15n-5e, 160 acres.

SHELL NOT OFFERING LOAN

It is learned on good authority in London that it is untrue that Royal Dutch-Shell is offering a £6,000,000 loan to Greece for construction of motor highways. The Shell formed a subsidiary in Greece, following the normal procedure of developing business in foreign countries, but is not seeking monopoly of the oil business there.

Oil Men Everywhere Read It

The Oil and Gas Journal has a wide circulation, going to all oil fields, refineries, natural gasoline plants, supply stores, pipeline stations and general offices everywhere.

It has a wide range of readers from executives in elegantly furnished offices to drillers in sun-baked thatched huts in far-off tropical islands.

They have been reading The Oil and Gas Journal for years. They read the classified advertisements every week because they are always in the market to handle a good deal.

If you wish to do business with oil producers, refiners, marketers, natural gasoline manufacturers, pipeliners, or any one engaged in any branch of the Industry, advertise in the Classified Wants Section.

It doesn't cost much. Thirty-five cents a line for the first insertion of an advertisement and twenty-five cents a line for each following time.

Mail your ad today for next week's issue, where thousands of oil men will see it.

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AUTOMATIC
SPRING HOOK

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No. 1. Rod Hook only, weight 35 lbs., and will safely handle any string of rods.

No. 2 Strong enough to handle the largest and longest string of tubing and light enough for a rod hook; weight 65 lbs. Safe carrying capacity 50 tons.

No. 3 Heavy. Weight 115 lbs. Safe carrying capacity, 75 tons. For users of heavier tubing equipment.

No. 4 Extra heavy for heaviest tubing; weight 170 lbs. Safe carrying capacity 125 tons.

Send for folders and prices

Automatic Safety

The new kind of safety—Dunn Safety—the safest safety. Both closed and open positions are *locked automatically,* and the safety latch cannot be tripped by accident, nor in any way except by the operator.

Daily use, (not theory), of the Dunn Safety Automatic Spring Hook everywhere, in all fields, has established these qualities:

Safest
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Dunn Spring Hook Features: Handles in a new and wholly different manner, in either direction receiving or releasing the load; eliminates all possibility of injury to threads; simplifies screwing and unscrewing when running-in, or pulling-out; no jars, dropping, jerks, nor rough usage can open it; and automatic safety, because it automatically locks, open or closed.

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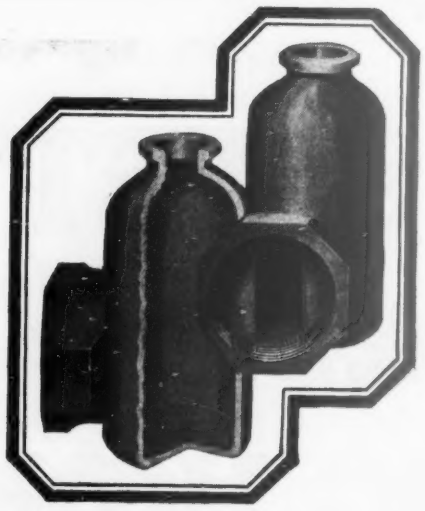

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Marley Spray Pond Installations and Equipment are winning and holding country-wide approval because of their extremely high efficiency and dependability. Originated and manufactured by an organization with wide experience in spray pond work, they are today the best it is possible to procure.

Marley catalogs which are descriptive of Marley Spray Equipment should be in the hands of every user of this type of equipment. A letter will bring your copy, without obligation. So write today.

Power Plant Equipment Company

2101 Grand Ave., Kansas City, Mo.

N. LOUISIANA-ARKANSAS

(Continued from Page 80)

No. 1 Munn, Section 1-22-10, is drilling in hard lime at 4,435 feet.

A derrick is up for Belchic and Laskey's No. 1 Peckett, C SW SE, Section 30-23-9. Humble's No. 2 R. R. Cox, Section 22-21-10, is drilling in chalk rock at 2,965 feet. Six-inch casing was cemented at 2,614 feet at Magnolia's No. 1 J. S. Sexton, Section 32-23-9. Magnolia's No. 3 Tiner, Section 21-21-10, is a rig. Palmer Corp.'s wildcat, No. 1 Crichton, Section 30-20-8, is drilling at 100 feet.

LOUISIANA-ARKANSAS WILDCATS

ARKANSAS

Ashley County

Pine Prairie Oil Co.'s No. 1 fee, Section 7-17-15, the deepest test ever drilled in Ashley County, is drilling in red shale at 3,325 feet. The shale was topped at 3,465 feet and the Blossom is expected to be picked up in a few days. If the test is a failure in the deep zone it will be plugged back to the Nacatoch sand around 2,970 feet where a good gas showing was encountered.

Bradley County

Magnolia's No. 1 Arkansas Timber Co., Section 33-15-11, is waiting for the big pipe to set at 963 feet. McNurray and associates' No. 1 Southern Lumber Co., Section 7-15-11, set 10-inch casing at 200 feet.

Calhoun County

Southern Crude Oil Purchasing Co. is fishing out the drill stem at 2,818 feet at No. 1 Calion, Section 1-16-14.

Drew County

McClintock and Goodka's No. 1 Olga, Section 35-13-5, is being reamed to the bottom at 2,395 feet.

Hempstead County

Frank S. Myers' No. 2 Nichols, Section 17-11-25w, is drilling in gumbo and shale at 1,990 feet.

Lafayette County

Near Bradley, Arkansas Fuel Oil Co.'s No. 4 Allen, Section 18-19-24, is shut down at 2,802 feet waiting for a standard rig. Gulf Refining Co.'s No. 1-E Red River, Section 10-19-24, cored salt water sand at 2,830 feet and is drilling at 2,832 feet. The Texas Company's No. 1 Colvin, Section 14-17-24, is drilling in gumbo at 2,149 feet.

Little River County

Greason and associates' No. 1 Waldron, Section 4-13-31, is drilling in rock at 1,269 feet. Mellick Oil Co.'s No. 1 Hawkins, Section 10-11-31, is drilling at 1,935 feet.

Miller County

Ten-inch casing was set at 295 feet and Gulf Refining Co.'s test near Roberts, No. 1 Dorsey, Section 27-17-26, is drilling ahead at 675 feet.

LOUISIANA

Bienville Parish

Woodley & Collins' No. 1 Thomas, Section 23-16-10, is drilling at 120 feet.

Caldwell Parish

Chal Daniels' No. 1 Lively, Section 6-12-4e, Long Lake district, was abandoned at 1,661 feet. The test had sand at 1,656-61 feet with salt water, without a trace of oil. Grant & Pipes' No. 1 Cruse, Section 6-11-4e, is shut down at 1,545 feet. Southern Crude Oil Purchasing Co.'s No. 1 Caldwell, Section 35-14-5e, is coring at 450 feet.

Claiborne Parish

Gilliland Oil Co. and Ramsey's deep test in Haynesville, No. 1-D Taylor, Section 14-23-8, is being deepened and cores are being taken at 4,331 feet. Gulf's No. 1 Crichton, Section 35-19-8, is drilling at 475 feet. Triangle Drilling Co.'s No. 1 Keen, Section 7-19-5, cored anhydrites at 4,382 feet. Triangle's No. 1 Meadows, Section 7-22-5, was abandoned in salt water sand at 2,912-14 feet.

Catahoula Parish

Magnolia Petroleum Co.'s No. 1 Montgomery, Section 8-10-9e, was abandoned at 3,366 feet.

DeSoto Parish

Dixie Oil Co.'s No. 1 Jenkins, Section 9-12-11, is shut down in brown lime at 4,150 feet waiting for drilling line. Carl K. Dresser's No. 1 Williamson, Section 29-15-14, is shut down in sandy shale at 3,160 feet. Magnolia's No. 1 Bond, Section 27-12-11, is drilling in chalk rock at 3,571 feet. Peer Oil Corp.'s No. 2 Woolums, Section 23-13-13, is drilling at 1,520 feet.

Grant Parish

Three more failures were chalked up against Grant Parish last week. Fuller and associates' No. 1 Barnes, Section 26-8-5w, cored salt water sand at 1,650 feet and was abandoned at 1,708 feet. Finn & Hurdley's No. 1 Ball, Section 32-7-1w, was dry and abandoned at 2,010 feet. Humble Oil & Refining Co.'s No. 8-A L. & A., Section 15-9-2w, was dry and abandoned at 1,750 feet. Bradley and Cozart's No. 1 Holmes, Section 16-9-1e, cored brown sand and shale at 1,583 feet. Fuller and associates' No. 1 Harrison, Section 9-8-5w, is shut down at 100 feet for orders. Gulf's No. 1 L. C. Swope, Section 17-9-1e, is being bailed to test at 1,596-98 feet. Humble's No. 9-A L. & A., Section 27-9-1w, is drilling in sand at 1,725 feet, and No. 10-A L. & A., Section 27-9-1w, is a rig. Humble moved the rig and derrick off No. 11-A, Section 20-9-2w. Humble's No. 1-A Edenborn, Section 30-9-2w, is drilling at 500 feet. Holmes and associates' No. 1 Holmes, Section 17-9-1e, is a derrick. Tunica Petroleum Co.'s No. 2 L. & A., Section 32-9-1e, is drilling in gumbo at 1,643 feet. Tunica's No. 5 L. & A., Section 16-8-1e, is drilling in gumbo at 941 feet.

Jackson Parish

Charles A. Ferguson's No. 1 Martin, Section 5-15-1e, is drilling at 1,300 feet. Grigsby and associates' No. 1 Adams, Section 22-17-4w, is a rig. Clarence Houseman's No. 1 Horton, Section 34-15-3w, is shut down at 125 feet waiting for surface casing. High water forced a shutdown at 1,110 feet at Louisiana Petroleum Co.'s No. 1 Theus, Section 20-16-3w.

Lincoln Parish

Arkansas Fuel Oil Co.'s No. 1 Cooper, Section 3-20-4w, is drilling in gummy shale at 3,292 feet. Buckley & Palmer are preparing to resume drilling at No. 1 Davis, Section 12-20-3w, and the test is being washed to the bottom at 2,075 feet.

Natchitoches Parish

Natchitoches Parish was rained out of the wildcat play during the week and all tests were shut down. Brothers and associates' No. 1 Cockfield, Section 78-7-5w, shut down at 102 feet. R. E. Davison and associates' No. 1 Williams, shut down at 186 feet. Forrest, trustee's No. 1 Ayers, Section 3-13-7, shut down at 2,380 feet.

Red River Parish

Alden Oil Co.'s No. 1 Powell, Section 13-11-10, is drilling at 570 feet.

Richland Parish

Gulf Refining Co.'s No. 1 Ches-Wyman, Section 23-18-8e, is a rig.

Sabine Parish

L. M. Emlet's No. 5 Bowman, Section 9-7-12, cored sand showing oil at 4,070 feet and arrangements are being made to set 4½-inch casing for a test. Casing is to be set at 4,035 feet. Toro Petroleum Co.'s No. 3 Drake, Section 19-4-11, is shut down at 1,561 feet.

Tensas Parish

Spencer & Rhodes' No. 1 Somerset, Section 29-14-12, is rigged up and ready to go.

Winn Parish

Winn Parish's contribution to the growing dry hole list was three during the last week. Hunt and associates' No. 1 Edenborn, Section 8-9-3w, was dry and abandoned at 2,505 feet. Standard Oil Co.'s No. 1 Sanders, Section 27-10-1e, cored salt water sand at 1,521-51 feet and was abandoned at 1,660 feet. C. H. Wilson's No. 1 Louisiana Central, Section 24-13-1e, was dry and abandoned at 2,020 feet. Humble's No. 12 L. & A., Section 21-10-2w, is drilling at 430 feet. The drill stem stuck at 1,556 feet at Ohio Oil Co.'s No. 1 Edenborn, Section 4-12-1w.

MEXICAN FIELDS

(Continued from Page 40)

tests, Nos. 33 and 34, which will be put down without delay. The nearest offset that might be possible to an outsider, No. 30, is 2 miles away. The oil tests

TRADE YALE MARK

Yale Electric Hoists are
SAFE, ECONOMICAL and EXPEDITIOUS

The Yale Model 20B Ball Bearing Electric Chain Hoist is an ideal piece of equipment for handling heavy castings, where care and facility are essential. It is here shown handling the heavy parts in a prominent gas engine plant. The smooth and positive action gives the operator greater ease in placing the load and the ball bearing load sheave and line of steel from trolley to hook make it the safest, most compact and most efficient hoist on the market.

Yale Model 20B Ball Bearing Electric Chain Hoists range from ¼ to 2-ton capacity. The latest design embodies such features as ball bearing load sheave, close headroom, long lift, higher speed, automatic top and bottom limit stops, and greater overall strength. These hoists have very unusual factors of safety in the strength of the load supporting members and are designed to withstand shock loads so common to this class of equipment. All suspension members of the Yale Electric Chain Hoist are made of the highest quality steel.

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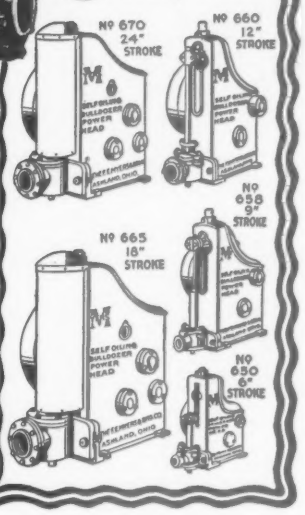

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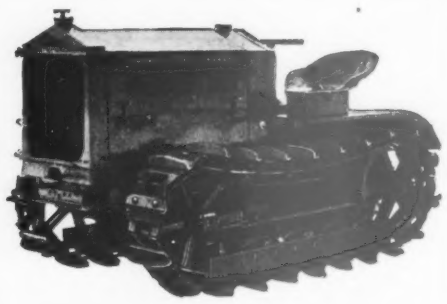

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$100.00
Price Reduction on Model K Cletrac

"Model K", the 3-plow Cletrac Crawler Tractor was added to the Cletrac line one year ago. The response from tractor users in every field of industry was immediate. This powerful tractor won instant favor everywhere—because it offered what was unquestionably *the greatest improvement in tractor design and construction that had taken place in the past ten years.*

With steadily increasing production a price reduction of $100 has been made possible. See this better tractor at once. Write for name of nearest dealer and descriptive literature.

NOW READY!
Model "A" Cletrac
30-45 H.P.

Model "A", the larger Cletrac Crawler Tractor—built to meet unusual power requirements in general industrial service—is now ready. Six-cylinder motor—30 H.P. at draw-bar—45 H.P. at power pulley. Simple, powerful, dependable—a duplicate in design of the successful Model "K", built in larger size and with corresponding increase of power and capacity.

THE CLEVELAND TRACTOR COMPANY
Cleveland, Ohio

about the same as Panuco or say, an average of 12.5 Baume.

At Panuco

Drilling operations in the Panuco sector of the northern fields as the week ended are best epitomized as follows: La Corona Petroleum Co.'s No. 120 Las Piedras is in gray lime at 1,440 feet; its No. 21 cemented 8-inch in the same formation at 1,230 feet; its No. 8 Chijol is spudding; and here and there in the older part of the field derricks are up for four more tests. Over in the Camolote division, Consolidated Oil Fields of Mexico No. 6, Lot 6 Camolote, has a big volume of dry gas at 1,820 feet, in gray lime, and it is shut down for observation. Cia. Pet. Capuchinas No. 4, Lot 12 W. Maguabes, is in gray shale at 940 feet, and its No. 7-A, same, is ready to spud. La Espuela Oil Co.'s No. 9 Perforadores is in gray lime with showings at 1,963 feet. International Petroleum Co.'s No. 25 Tanchicuin is swabbing at 2,180 feet. Mexican Sinclair Petroleum Corp.'s No. 29 Tananturo is in pink and gray lime at 1,610 feet. Mexican Gulf Oil Co.'s No. 4-A Piedras, which has been testing for production at 2,000 feet, has shown some water while flowing 200 bbls.; its No. 27 Lopez is in hard shale at 1,073 feet. Sanchez and others' No. 201 Alamo is in gray lime at 1,890 feet. Transcontinental Petroleum Co.'s No. 11, Lot 14 Tanchicuin has shut down at 1,600 feet in gray lime owing to high water; its No. 1 Robles is in shale at 600 feet; its No. H-7 Etienne is in gray lime at 1,340 feet; its No. 27 Barbarena cemented 10-inch in gray lime at 1,170 feet and its No. 16 Ojital is in gray lime at 1,660 feet.

At Cacalilao

In the Cacalilao sector, La Corona Petroleum Co.'s No. 158 is spudded, and No. 157 is rigging. International Petroleum Co.'s No. 273, Lot 5, is in gray lime at 1,560 feet. Mexican Sinclair Petroleum Corp.'s No. 95-A, Lot 3, is in shale at 150 feet and No. 129, Lot 2, cemented 8-inch in the San Felipe at 1,229 feet. Transcontinental Petroleum Co.'s No. 244, Lot 4, cemented 8-inch in the San Felipe at 1,225 feet; its No. 271 is in gray lime at 1,525 feet, and No. 60 Paciencia, just north of Cacalilao, is in gray lime at 1,575 feet.

South Fields

In the south fields, Huasteca Petroleum Co.'s No. 73 Cerro Azul is in blue shale at 320 feet; its No. 82 is in brown shale at 1,015 feet. In Tierra Blanca, its No. 77 is in gray and brown lime at 1,915 feet and its No. 81 is in brown shale at 425 feet. International Petroleum Co.'s No. 52 Toteco is in hard gray shale at 2,198 feet. Mexican Eagle Oil Co.'s No. 49, Lot 111 Amatlan, is in shale at 997 feet; its No. 37 Furbero is in gray shale at 2,422 feet, and its No. 9 San Diego cemented 4¾-inch in hard shale at 1,605 feet.

Penn Mex Fuel Co.'s No. 3 La Pita is in sandy blue shale at 4,790 feet.

Northern Miscellany

In the miscellaneous pools of the north fields the following obtains: At Ebano, Mexican Petroleum Co.'s No. 55 Chijol, is in gray lime at 2,360 feet, and it is preparing two more locations here. In La Dicha, its No. 43 is in gray shale at 855 feet; its No. 77 is in a similar formation at 1,000 feet; No. 111 has tested 10-inch cemented in gray lime at 1,315 feet, and two tests are waiting for permits. In its Midway No. 50 is showing some salt water in while lime as the drill descends at 2,040 feet; its No. 2 Silva cemented 10-inch at 1,280 feet in gray lime; its No. 9 Mendez has spudded and No. 11 Mendez cemented 8-inch in gray lime at 1,200 feet; its No. 102 Conteca cemented 10-inch in gray lime at 1,200 feet, and No. 103 Conteca is rigging. Three tests in the San Pedro are waiting for permits.

In Los Esteros, American International Fuel Co.'s No. 31 is a deep hole at 2,503 feet in shells; No. 32 is in gray and brown lime at 2,071 feet, and Nos. 33 and 34 (offsets to No. 30) are rigging.

In the Marland Field, Cia. Franco Espanola No. 54 Limon is in lime at 2,117 feet; No. 60-A is in gray lime at 2,565 feet, and three more tests are rigging.

In the Corcovado district, La Corona Petroleum Co.'s No. 25, Lot 6, cemented 6-inch in the San Felipe at 1,190 feet. Mexican Gulf Oil Co.'s No. 31-A Chapacao cemented 8-inch in gray lime at 1,100 feet, and its No. 36-A is in gray lime at 1,525 feet. Rich Mex Oil Co.'s No. 6, Lot D Corcovado, is in blue shale at 1,630 feet.

National Lines, in its right-of-way through Chapacao, has its No. 50 in gray and brown lime at 1,715 feet, and is cementing 8-inch in its No. 105 Conteca at 1,225 feet in gray lime.

WILDCAT IN McMULLEN COUNTY SCORES OIL SAND

(Continued from Page 36)

irregular shape survey. The well is approximately in the center.

The J. W. Allen well, in Milam County, 6 miles west of Rockdale, is nearly down to the Edwards lime. Every Edwards lime test in the Balcones Fault zone is interesting and all are watched. The Allen well, on the Joe Brown farm, seems to be running high and has had considerable gas in formations above the Edwards. It topped the chalk at 2,070 feet and went out of the chalk at 2,533 feet. It topped the Buda lime at 2,770 feet and Del Rio at 2,783 feet and is drilling below 2,800 feet and will probably test the Edwards within a week.

Webb County

In the circle of wildcat tests around the Carolina-Texas gas field and in the northern part of Webb County a test of unusual interest is the T. C. Hadley-Marland Oil Co. test on Survey 49, known as No. 1 de Spain, in the northeast quarter of the southwest quarter of Survey 49, several miles northeast of the Carolina-Texas Field and located along the Reynosa escarpment, which from the Carolina-Texas Field bends to the northeast. Bordo Oil Co., on Survey 48, 1 mile south, got quite a showing of oil amounting to 30 feet of oil on a column of 1,100 feet of water in a 2,125-foot hole last January. The well is still standing. It drilled past the oil showing and into salt water without knowing it and the showing of oil was discovered the next morning. O. W. Killam is rigging up on his No. 1 Driver, in Survey 52, 2 miles west of the Carolina-Texas Field. C. O. Maddox and the E. L. Smith Oil Co. are drilling at around 600 feet in No. 1 Laurel, on Survey 333, 3 miles south of the Carolina-Texas Field. National Refining Co. is drilling at 1,800 feet in No. 1 Benavides, in Survey 700, midway between the Carolina-Texas on the northwest and the Cole Field on the southeast. W. C. Ritchison is standing at 2,503 feet in No. 1 Billings in Block 1 of Section 71, several miles northeast of the Carolina Texas Field. Benedum & Trees have a location made in Section 10 of the Billing land. Cole Petroleum Co.'s No. 9 "A" Benavides, in Block 7 of Section 753, 4 miles northeast of the Cole gas field, is drilling at approximately 2,400 feet. Magnolia's No. 1 Neal, in Block 12 of Section 132, 4 miles southwest of the Cole field, is coring at 1,579 feet. Neal-Ramsland's No. 1 Lopez, in Survey 309, midway between the old Mirando Valley Field on the south and the Bruni tract extension of the Mirando Field on the north, is drilling at 2,150 feet. The Lane-Texas well, in the edge of the townsite of Laredo, being drilled for water is drilling at 2,260 feet.

Duval-Piedras Pintas

In the Piedras Pintas district in Duval County, where Humble last December drilled No. 4 Walsh and made an oil well out of it at 3,623 feet, the elapse of seven months without the completion of an additional oil well seems to place it in wildcat territory in spite of the producer. No. 5 Walsh has been abandoned. No. 6 Walsh, located west of the producer, is drilling at 3,566 feet with oil and gas showing in the last 2 feet of formation. Humble has derrick up and is rigging up on No. 1 Becher in Survey

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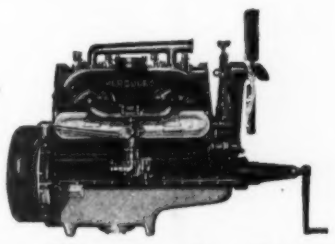

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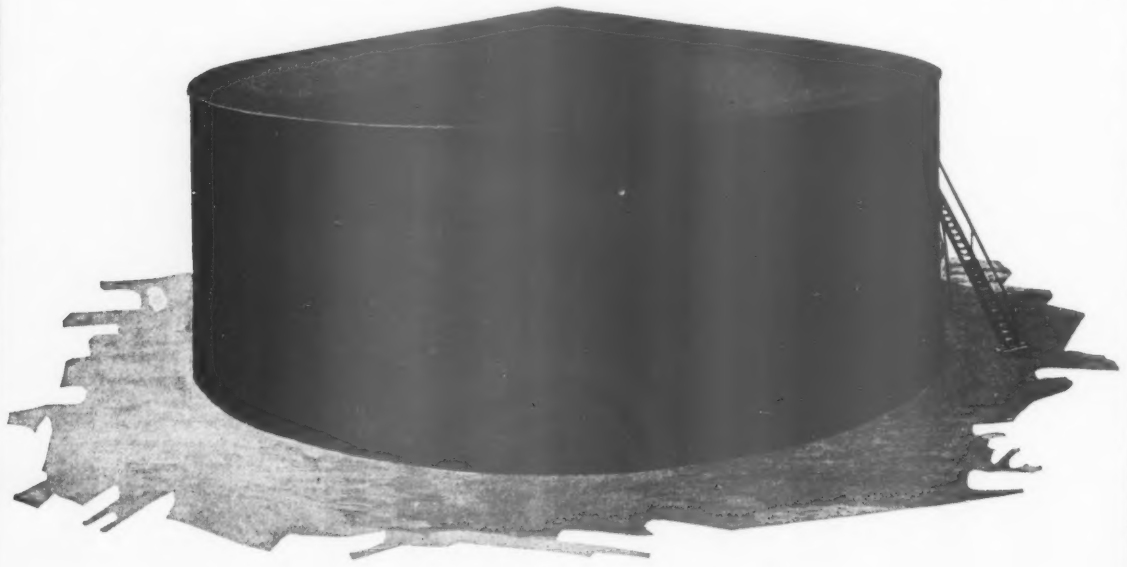

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531, the location being 480 feet from the north line and 2,075 feet from the west line. It is considerably west of the discovery oil well and is near the old Empire Gas & Fuel Co. well drilled several years ago that got a good showing of oil. Magnolia is having boiler trouble with No. 1 Speer, a half mile northwest of the discovery welll at 3,845 feet. Humble's No. 5 Schallert, on the Palangana salt dome, several miles to the northeast, has an oil showing at 1,433 to 1,436 feet. Simms did not abandon No. 1 Schallert in the same territory, as announced at 3,595 feet, where it tested salt water with a showing of oil and is now drilling at 3,620 feet.

C. O. Maddox and E. L. Smith Oil Co. are soon to drill a test in Duval County just over the line from Brooks County on a 6,000 acre lease and a contract that calls for operations to start by August 16. It is in the southeast corner of the county.

O'Hern & Seacord are reaming the first 120 feet in No. 1 Benavides in Survey 174, 5 miles south of the Cole Field, in Duval, to set surface casing. A boulder is giving some trouble. Total depth is 1,787 feet. Simms Oil Co.'s No. 2 Dinn, in Duval, 5 miles north of the Cole Field and a little to the east of its No. 1, which was a small gas well, is coring at 1,765 feet, approximately the depth at which No. 1 is producing gas. It is in hopes of picking up an oil sand. Humble's No. 1 Dowdy (fee) is drilling at 2,370 feet. It is in the extreme northern part of the county. Maurer & Duggan have abandoned at 3,650 feet No. 1 Hoffman, on Survey 123, which is 12 miles northwest of Noleda. Houston Oil Co., which took over the J. T. Graham No. 1 Beall in the northeastern part of the field, is testing at 2,438 feet. Moody Oil Corp., which tested salt water at 2,160 feet in No. 1 Benavides, in Block 29 of Survey No. 1 of the Mesquite ranch, 2 miles southeast of the Cole gas field, drilled to 2,500 feet and has abandoned the hole.

Jim Hogg Wildcats

Moody Oil Corp. is drilling at 800 feet in No. 1 Palacious, in Block 13 of Survey 287, more than a mile east of the Randado Field. Blair & Stein are drilling below 100 feet in No. 1 Schroeder, in Block 10 of Survey 16, 7 miles south of the Randado Field. Hoad and others have shut down at 300 feet and are drilling a water well in Survey 247, several miles southeast of the Randado Field. National Oil Co. has arranged for water and has spudded in and is drilling at 180 feet in No. 1 Allen on the Wilbur Allen ranch in Survey 23. Simms Oil Co. is drilling on No. 1 Allen in the same ranch. Simms' No. 1 Leyendecker, 5 miles south of the Randado Pool, in Block 7 of Survey 143, which got some good showings of oil at 1,862 and 2,090 feet and tested dry at 2,198 feet, present total depth, is pulling 4½-inch casing and will drill deeper. J. W. O'Byrne and others are drilling at 600 feet in No. 1, on Block 14, of Survey 230. L. M. Holder, a few miles east of Hebbronville, is drilling at 2,590 feet in No. 2 Jones and is close to the depth where an oil showing was had in No. 1 test on the same ranch.

Zapata County

Turner & Moore are getting ready to rig up on No. 1 Bestamente, in Block 38, on the division line between the Charco de la India and the Comitas grants in the southern part of Zapata County. O. W. Killam is testing at 1,561 feet in No. 2 Hinnant and at 1,547 feet in No. 3 Hinnant, No. 2 in Block 9 and No. 3 in Block 40 of Survey 307, immediately north of the old Mirando Valley Pool, where he drilled his discovery well. Benedum & Trees are drilling at 120 feet in No. 1 Benavides, in Block 22 of the Villa grant. Magnolia Petroleum Co. has a trace of oil at 1,364 feet in No. 1 Cuellar, in Survey 278. The Texas Company has abandoned No. 2 Jennings at 4,685 feet, total depth, and is moving the rig to No. 3 Jennings, in the Cerrito Blanco grant, about a mile southwest of No. 2.

Atascosa County

Plateau Oil Co., in the northwest corner of Atascosa, 2 miles west of Anchorage, in No. 1 Tomlin, is drilling at 2,450 feet and has encountered very little that is encouraging thus far. W. G. French is moving in tools to drill No. 1 Jaksik in the northeastern corner of Atascosa County, near Lemmberg.

Bastrop County

Fred Adams is drilling at 2,095 feet in No. 1 Calloway in Bastrop County, near Smithville. Gulf Production Co. is below 1,500 feet in No. 1 McCright.

Bexar County

Marland Oil Co. has moved in a diamond drill on its block of several thousand acres in eastern Bexar County, where it had a structure and will core drill the block. Previous to drilling No. 1 Mihalski, Marland core drilled with a smaller rig over the block. No. 1 Mihalski was a failure but it had a showing in the Edwards and there were encouraging features. The first test by the bigger rig is 300 feet south of No. 1. Marland is also core drilling a block in the western part of Bexar County. W. E. Rutledge is waiting for casing in No. 1 Brooks, 1 mile north of Cassin, with a showing of oil at 1,050 feet. C. J. Lecomte drilled No. 1 Rosalino Diaz on Mayfield Avenue, in the southern part of San Antonio, on the Pleasanton road, and at 535 feet it tested a small amount of oil, not enough for a commercial well. It is drilling deeper.

Brooks County

Ballard & Underwood are at 2,212 feet in a blue shale and with the drill stem stuck in No. 1 Lasater, in the northeast corner of Brooks County. W. W. Jones is understood to have closed a contract with a large interest for some wildcatting on his 100,000-acre ranch in central Brooks County, where a 12,000,000-foot gas well at about 1,200 feet was encountered while drilling a water well for ranch purposes. The gas well has been closed in. Roxana Petroleum Corp. has a contract to use the seismograph on the Scott & Hopper ranch, in the central part of Brooks that calls for a selection of 4,000 acres by the close of the year. The location of Brooks County is inviting to the wildcatter hunting for salt dome territory.

Caldwell County

Houston parties have posted a forfeit in the First National Bank at Lockhart on a contract to drill a well on the Jeremiah Roberts Survey, east o Lockhart, in Caldwell County, and between Lockhart and the Lytton Springs Field. It will be an Edwards lime test. John T. Storey abandoned at 2,534 feet his test on the McConnell lease south of Dale. Reiter-Foster Oil Corp.'s No. 1 Dinges, in the same territory and southeast of the Storey test, is drilling below 1,500 feet. Due to previous tests that showed oil both in Serpentine and Edwards this test is watched with considerable interest.

Frio County

Wiley Wyatt, of Wichita Falls, drilling two wildcat tests in Frio County, east of Pearsall, is down approximately 400 feet on each test, one on the Fain farm, 5 miles east of Pearsall, and the other on the Barnhart farm, 4 miles east of Pearsall. Casing collapsed on the first test started on the Fain farm and the well with the hole at 250 feet was turned into a water well from a sand at 182 feet.

Fayette County

George W. Page and others, representing an English syndicate, is drilling at approximately 1,000 feet in a test 1 mile north of Schulenberg, in Fayette Counyt, on the Rosa Russek farm.

Gonzales County

Martin Oil & Development Co.'s No. 1 Preston, in the W. W. Pace one third league in the southeastetrn part of Gonzales County, is drilling at 360 feet on a test contracted to go to 3,000 feet unless production is found at less depth. It has an 11,000-acre block of leases and has contracted two other tests to 2,500 feet to be started within 90 days. Joseph Bruner is expecting to resume at 2,396 feet in No. 1 Sweet, 3 mies northeast of Waelder, in northern Gonzales County, within a short time and carry the test down to 3,500 feet. He is drilling at 600 feet in No. 1 P. D. Davis, in the A. Zum-

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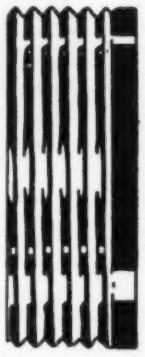

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walt, Jr., league, after having been shut down for a time. L. L. Jones' No. 1 Lamkin is drilling at around 500 feet in a wildcat test about 2 miles south of Waelder. Bost Brothers, who are drilling No. 2 Taylor in the town of Waelder, are shut down at about 700 feet. They moved the rig off to drill a water well but are moving the rig back and will carry the Taylor test to 1,000 feet.

Guadalupe County

Magnolia Petroleum Co. has filed notice of intention to drill No. 36 A. J. Baker, on the H. Cottle Survey, in the Guadalupe County end of the Luling Field, on acreage secured from the North & South. J. M. Davis has been drilling for a week in a test on the Payne & Bond block of leases in western Guadalupe County, 2 miles south of New Berlin, and is drilling below 600 feet in No. 1 Pooley, in northern Guadalupe County, near Staples.

Karnes County

Earl B. Reynolds is rigged up and waiting for a few supplies before spudding in No. 2 Butler, in Karnes County, 1,000 feet south of his No. 1 Butler.

LaSalle County

DeLange, Eiser Development Co. is drilling at 860 feet in No. 1 Dobie (fee) in the southeast corner of LaSalle County. It tested the gas showing at 480 feet. It made a small amount of gas but has been cased off. Another gas showing was had at 843 to 849 feet.

Live Oak County

Mid-Kansas Oil & Gas Co. is fishing at 1,400 feet in No. 1 Dummond, in the northern part of Live Oak County. Simmons Oil Co. (Henderson Coquat) is setting casing at 1,050 feet in No. 3 Sartin in the Simmons tracts, several miles southwest of Three Rivers. The well is between two other wells, one on the east, abandoned at 600 feet, and one on the west that ran wild at 1,350 feet, making a lot of gas and cratered.

Medina County

In Medina County, interest is centering around the four gas wells of Henderson & Holden, on Survey 13. Southern Gas Co. has closed a lease on the E. B. Chandler tract, in the southeast corner Survey 13, comprising about 800 acres, and has spudded in a well 700 feet from the north line of the lease and 400 feet from the west line. Witherspoon is nearly rigged up on No. 1 Adams in the northeast part of the Adams tracts and northeast of the gas wells. The Southern's test is south of the gas wells. Sprague, of Shreveport, is down around 800 feet and ready to set casing in No. 1 Redus, on Survey 92, 1 mile east of the gas wells. It is understood other major interests are planning drilling in the vicinity, all the tests being with the idea that there is an oil field there with the exception of the Southern Gas, which has negotiated for the gas supply. Fennell and others have spudded in a test on the east 100 acres out of Survey 115. Kittle & Townley are trying to pull liner in No. 1 Bendele in Survey 593 at 960 feet, where they had a showing of oil. If successful in pulling the liner they will drill deeper. Pat Armstrong has started to drill one of the two wildcats he has rigged up a little northwest of Hondo. Schermerhorn Oil Co. is pulling liner after a test at 1,521 feet in No. 2 Irrigation Co. land, Survey 31, a little southeast of Noonan, and tested dry and abandoned at 1,700 feet No. 3 on the same lease. J. R. McCadlin succeeded in releasing the drill stem in No. 1 Thompson, a little west of Devine, at 2,590 feet and has resumed drilling. He has been in the chalk since 2,185 feet. Gibson Oil Corp. and J. E. Walsh are changing to big rigs on both the Carpenter test in Survey 808 and the Sten test in Survey 847. Golden West's No. 1 Joseph Courand is drilling at 545 feet in lime, a little southwest of Castroville, and had an oil showing at 520 to 530 feet. Alamo Drilling Co.'s No. 1 Kennedy, in the western central part of the county, is not yet past its surface rock trouble. Ina Oil Co. is fishing at 1,944 feet in No. 1 Hoffman, an Edwards lime wildcat test and in No. 1 Finger, in Survey 746, it has a showing at around 700 feet. North & South is drilling 3 miles south of Hondo, on a deep test having made the first few hundred feet.

Milam County

The Texas Company has abandoned No. 1 Stewart, in Milam County, west of Rockdale and south of the Allen test, which is drilling near to the Edwards at below 2,800 feet. The Simms and The Texas Companies are each heavily interested in that territory and in the territory west, in Williamson County, and additional tests are expected to start soon.

San Patricio County

John Sigmund is shut down at 4,021 feet in No. 7 McCampbell at Aransas Pass, and is skidding the rig 1,500 feet east and will seek to develop a commercial well at 2,200 feet in order to perpetuate the leases.

Starr County

Every hotel and rooming house at Rio Grande is filled with oil men of every description, mainly geologists and land men getting leases. Development work is only barely starting in the county, hardly that. Ramsey-Maxey Oil Co., which has just finished installing a heavy duty rig on No. 1 Kelsey, on Porcion No. 76, a little north of Rio Grande City, resumed at 600 feet and drilled to 720 feet where it encountered an oil showing and cored a rich oil sand at 724 feet. It is setting 10-inch casing and will be ready to bail early this week. Ramsey-Maxey is the first of the big interests to get started drilling in Starr County, but by the end of the year it is anticipated that a large number of tests will be drilling. The Texas Company is expecting soon to drill on the big block of leases farther west on the county in which it bought a half interest from Brooks. Simms Oil Co. is getting ready to drill on the north half of Porcion 80, a few miles east of the Ramsey-Maxey test. Several independents are getting ready to drill east of the Simms and another interest is expected to drill on the south half of Porcion 80. The porcion contains about 12,000 acres. Moody Oil Corp. and Heard & McCarley of San Antonio are each to drill on the de Graffe block of leases northeast of Rio Grande City.

Terrell County

Sun Oil Co. has contracted with the Cosmo Oil Co. to drill on the Julian Bassett 400,000-acre ranch, in southeastern Terrell County, and was all rigged up ready to spud in last week. It will be one of several tests on the ranch planned.

Val Verde County

O. O. Owens has the derrick up and is moving in the rig to drill on the Mills ranch in Val Verde County, on Section 128, of the I. & G. N. Railway Survey. The lease embraces 80,000 acres. The first test is in the center of Section 128.

GULF COAST FIELDS

(Continued from Page 42)

Port City Oil Co.'s No. 6 SFS is bailing at 1,875 feet.

In the Edgerly Pool, the Gulf Refining Co.'s No. 25 Bright-Penn is a 100-bbl. well at 3,100 feet. Dysdale & Savoy's No. 2 Hill, will pump at 2,950 feet.

Abandoned Wildcats

Benedum & Trees abandoned No. 1 Kennedy, southeast of the Humble Pool on the San Jacinto River, Harris County, at 3,307 feet. It is the firm's first test in the Coastal region.

In Chambers County, The Texas Company quit No. 2 League at 1,430 feet and W. C. Moore No. 4 Blenke at 1,300 feet. Both were formation tests. The Orange Petroleum Co. abandoned No. 1 at Gum Island, Orange County at 3,300 feet and the Houston Oil Co. pulled No. 1 Pipkin-Davis at Big Hill Dome, Jefferson County at 2,938 feet.

Wildcats and Semiwildcats

The large increase in the daily average production of the Coastal area is having its effect on wildcatting and less wells are now drilling than at any time during the past six months. Ten wildcat tests have been abandoned during the past two weeks. Two reasons can be assigned for the decrease in outside operations. One is the fear of unexpectedly

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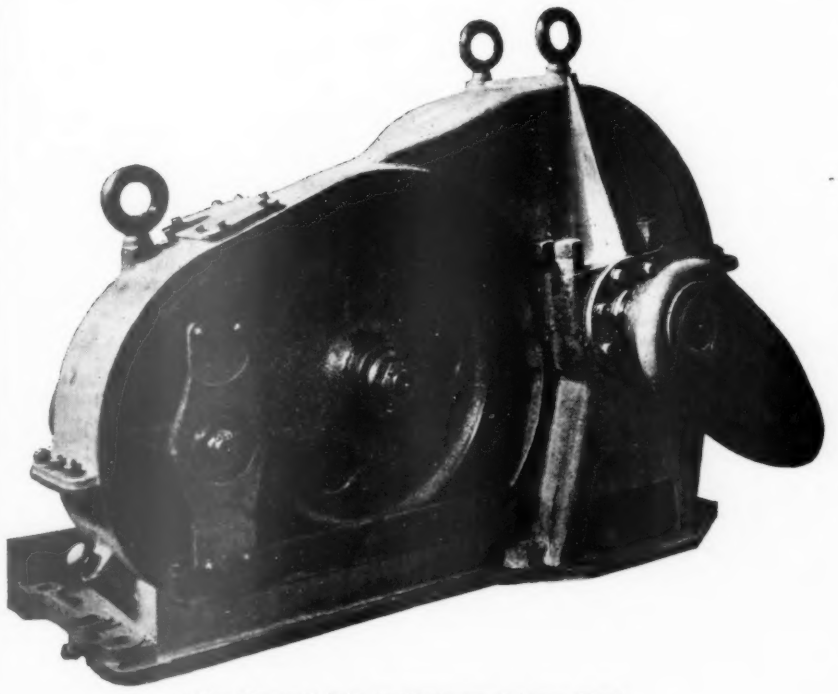

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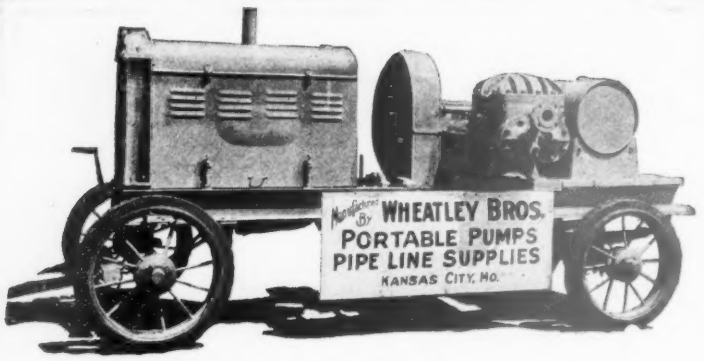

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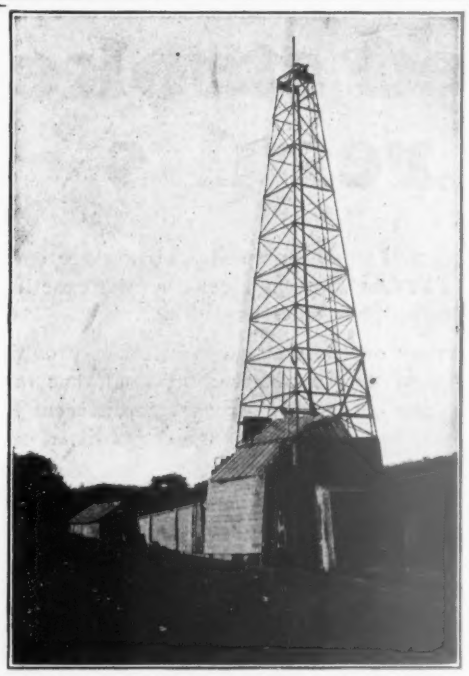

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opening something new while the Coastal output is around the peak and thereby adding to the flush production. Another is the increasing activity in the Mirando district, which calls for more rigs and abandoning wildcats releases them.

Last week two tests were abandoned around the Hawkins Dome in Matagorda County, and two have been pulled around the Big Hill Dome in Jefferson County. The Hawkins Dome is one of the newer discoveries around which the Gulf Production Co. has most of the acreage. The Big Hill Dome has been the scene of more or less exploration work for the past 17 years. The Houston Oil Co. is now drilling there. The Gulf Co. is starting No. 5 Craig at Hawkins and drilling No. 1 Parkinson. The Humble Oil & Refining Co. is drilling No. 1 Robins at 1,810 feet at Van Vleck, in the southeastern part of Matagorda County. That section of the county has been explored geophysically.

The Flanagan Drilling Co. is drilling No. 2, north of Lufkin, Angelina County. The Valley Oil Co.'s No. 1 Thompson, in Austin County, 30 miles north of the Orchard Pool, is reaming around 825 feet. It, too, is a new dome prospect being drilled with a heavy gasoline rig.

In Brazoria County, the Roxana Petroleum Corp. is developing two new dome prospects, 5 miles distance from each other. One is on the Clement State Prison farm. No. 2 Clement is idle at 2,400 feet, reported in cap rock. No. 2, on the Allen ranch, is drilling around 4,770 feet in sandy lime and pyrite. These tests are south of the town of Brazoria and about 15 miles south of the West Columbia Pool.

Prospect to Be Tested

The Roxana Petroleum Corp. has made a location for No. 1 State Land Lake Charlot, also known as Moss Bluff, on the line of Liberty and Chambers Counties. The Gulf Co. has a location for No. 1 Beckman. This territory was tested with the seismograph and torsional balance and pronounced a saline uplift and so reported in a recent issue of The Oil and Gas Journal. Conditions were unusual there in that the geophysical exploration work was completed before all the likely looking acreage was secured. The fact that the instruments indicated dome formations became known and there was a rush for leases, as high as $200 an acre being paid as a bonus for a highly speculative prospect. The results of the tests starting will be closely watched since all the major companies and several individuals are represented among the lease holders.

In Fort Bend County, the Gulf Production Co.'s No. 12 Davis, at Long Point, is drilling around 2,135 feet. The Marland Oil Co. has made a location for No. 1 Hartfield, near Needville, between Damon Mound and Rosenburg.

In Liberty County, Leland and others' No. 2 Grogan Lumber Co. lands, 14 miles north of Dayton, is idle at 350 feet. The Sun Oil Co.'s No. 3 Masterson, at Felcia, is drilling around 2,500 feet in a water sand.

In Harris County, Burt & Griffith's No. 1, on the Humble Highway, is drilling. Kelly and others' No. 1 Lipper, at Aldine, is around 2,400 feet. Gwinn and others' No. 1 Cage, near Huffman, is shut down at 1,400 feet. The Kane Production Co.'s No. 1 Foster Lumber Co. land, near Huffman, is in a water sand at 1,710 feet. Braine and others, north of Spring, is around 1,700 feet.

In Jefferson County, the Port Arthur Development Co.'s No. 1, at Westbury, is at 2,300 feet. Gulf Production Co.'s No. 2 Bordages, Fannette Dome, is at 2,998 feet. No. 9 Thomas is rigging.

In Orange County, the Brownie Babbittee Oil Co.'s No. 1 Lake Shore Farm, 6 miles southeast of the Orange Pool, is rigging.

In Grimes County, the Moraco Oil Co.'s No. 1 Dodds, west of Iola, set surface casing. The Newblock Oil Co.'s No. 1 Freund is idle at 2,600 feet.

The Humphrey Corp,'s No. 1 Malone, 5 miles west of Wharton, Wharton County, is drilling around 800 feet.

The Houston Oil Co. is starting No. 1 Keeran, 5,000 acres in the northeastern part of Victoria County on Palacedo Creek. Eleven miles of pipeline for natural gas for fuel will be laid from Telferner, tapping the main of the Houston Pipe Line Co., a subsidiary.

The Bartlett-Brooks Production Co. is rigging No. 2 C. Herad, in the Refugio Gas Field, Refugio County. Sebasatian & Smith's No. 1 Lewis is rigging in Sabine County.

The Howard Petroleum Co. is rigging No. 1 Nichols in Montgomery County.

Over in south Louisiana, the Sun-Humble Oil Co.'s joint No. 1, in the Johnson Bayou region of Cameron Parish, is drilling around 2,345 feet. This test is scheduled to drill deeper if necessary.

H. C. Hanszen is rigging No. 1 Harlan in Calcasieu Parish.

In St. Mary Parish, the Pure Oil Co. and Humphrey Corp.'s joint No. 1 at Avoca Island, is rigging.

In Iberia Parish, the United Oil & Gas Syndicate's No. 2 Salt Mine, Jefferson Island, is drilling around 2,540 feet in hard shale.

Operations in the Pools

At Barber Hill in Chambers County, the Bennett Production Co. is drilling Nos. 3 Barber and 5 fee, and Barkley & Meadow's No. 1 Barber. The Old Colony Oil Co. is rigging No. 13 in the Dayton Pool. The Hyde Production Co. is starting No. 2 Masterson at West Columbia.

At Boling, the Humble-Gulf's joint No. 15 Hawes, is around 2,776 feet. On the northeast flank of the dome, The Texas Company's No. 1 Farmer is around 1,375 feet, and the Sun Oil Co.'s No. 2 Farmer, at 1,275 feet.

At Blue Ridge, Gulf Co.'s No. 6 West-Schenck, on the south side, is at 1,507 feet, and No. 7 Blakely is below 3,700 feet. It is being bailed.

At Pierce Junction, the Gulf Production Co.'s No. 14 Taylor is rigging. On the west side, the Rio Bravo Oil Co.'s No. 3 P. Settegast is at 1,655 feet, and No. 3 P. F. is at 670 feet. The Texas Exploration Co.'s No. 10 Dooley is drilling at 1,765 feet. Bashara Oil Co.'s No. 1 Bender is at 2,610 feet.

The Gulf Co.'s No. 5 Smith, on the north side of the High Island Dome, Galveston County, is around 4,700 feet, and No. 2-A Smith is below 2,600 feet. The Sun Oil Co.'s No. 8 Cade is drilling at 4,415 feet, with a location made for No. 11 Cade.

Hardin County Pools

In the deep sand section on the southwest side at Sour Lake, the Sun Oil Co.'s No. 1 Libbie is at 4,988 feet. The Humphrey Corp.'s No. 1 Bashara is at 4,070 feet, and No. 2-B Bashara is below 4,025 feet. J. F. Bashara's No. 1 fee is at 3,800 feet. The Yount-Lee Oil Co.'s No. 5 Gilbert is drilling at 1,864 feet, and No. 2 Lynn is at 900 feet. Humphrey-Oxford's No. 1 Kelly is at 3,235 feet. Gulf Production Co.'s No. 1-D McLean fee is at 2,965 feet. The Orange Petroleum Co.'s No. 1 Merchant is at 4,055 feet. It will be noted that the depths are all around 4,000 feet or below in contrast with Spindletop where the deep production is found 2,800-3,100 feet. Gordon and others' No. 1 Farrell is around 2,700 feet. On the north side, The Texas Company's No. 303 fee is rigging. The Lake View Oil Co.'s No. 49 Hardin is drilling around 1,000 feet.

No wells are drilling in the Saratoga Pool.

The Texas Company's No. 2 La Jarza, on the east side of the Batson Pool, a proposed deep test, is drilling at 508 feet. The Houston Production Co.'s No. 1 Santa Fe is below 2,435 feet. The Gulf Production Co.'s No. 62 Choate is at 596 feet, and No. 1 Cruse is at 455 feet. S. R. Buchanan's No. 89 Milhome is at 1,324 feet.

Liberty County Pools

In the South Liberty Pool, the Humble Oil & Refining Co.'s No. 3 Welder, in the west side extension, is rigging. The Premium Oil Co.'s No. 1 Mitchell, on the north side is drilling at 3,575 feet. The Peer Oil Co. is sidetracking No. 1 Harrison at 2,425 feet. It is a workover.

In the Hull Pool, the Republic Production Co.'s No. 132 Dolbear is drilling at 2,800 feet; No. 133 is drilling at

(Continued on Page 122)

TO THE DRILLERS IN THE PANHANDLE FIELD

M-S-A Combination Hose Mask

COMPLETE PROTECTION IN ALL FIELD OPERATIONS

Burrell GMA Mask Made by M-S-A

Use the M-S-A Combination Hose Mask to give a man fresh air from outside the gaseous area for all work in the cellar under the derrick.
Write for Bulletin 99-B

Use the Burrell GMA Mask when Hydrogen Sulphide ladened fumes are encountered on the derrick platform.
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MINE SAFETY APPLIANCES COMPANY

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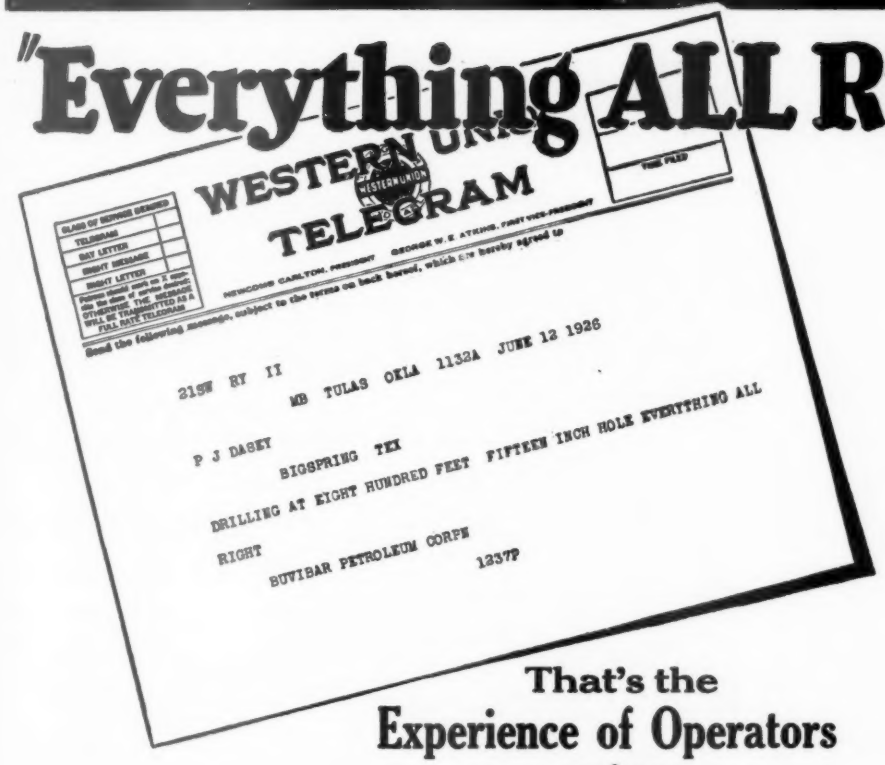


WESTERN UNION TELEGRAM

NEWCOMB CARLTON, PRESIDENT GEORGE W. E. ATKINS, FIRST VICE-PRESIDENT

Send the following message, subject to the terms on back hereof, which are hereby agreed to

219W NY II
MB TULAS OKLA 1132A JUNE 12 1926

P J DASEY
BIGSPRING TEX

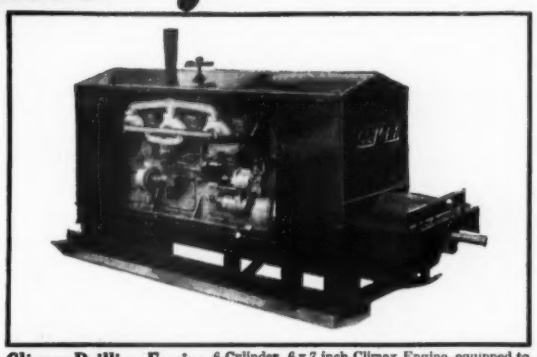
DRILLING AT EIGHT HUNDRED FEET FIFTEEN INCH HOLE EVERYTHING ALL RIGHT

BUVIBAR PETROLEUM CORPN
1237P

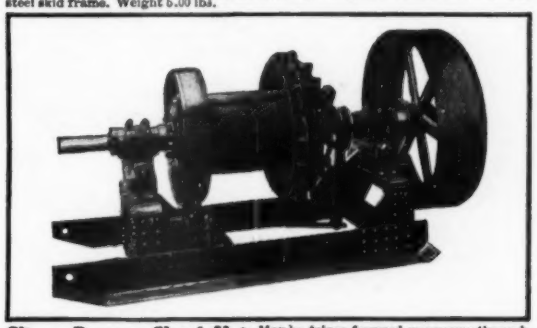
That's the Experience of Operators using

CLIMAX Trade Mark Reg. U. S. Pat. Off. **CABLE DRILLING UNITS**

Write for Bulletin H



Climax Drilling Engine 6 Cylinder, 6 x 7 inch Climax Engine, equipped to use gas or gasoline. Equipped with electric-starting motor, vacuum feed fuel pump, built-in governor, water pump, ignition equipment, telegraphic control, etc. Driving pulley 17 inch diameter, with 12 inch face. Extension on drive shaft for forge drive pulley. Engine mounted on structural steel skid frame. Weight 5,00 lbs.



Climax Reverse Clutch Unit May be driven forward or reverse through 2 clutches. Picks up load without undue shock or jar. Neutral brake holds load stationary. Clutch and brake operated by one lever, with extension running to derrick floor. Heavy structural steel skid frame. Weight 4200 lbs.

CLIMAX ENGINEERING CO., 32 W. 18th Avenue, CLINTON, IOWA

Mid-Continent Office:
Wells Hotel, Tulsa, Okla.

California Field Headquarters:
Coast Machinery Corp., 464-66 E. 3rd St., Los Angeles, Calif.

35 CENTS a line first insertion; 25c a line each additional insertion. Cash in advance.

CLASSIFIED WANTS

CREATE AND BUILD BUSINESS

MAIL your advertisement now. It will be published next week. Cash with order.

LEASES—PRODUCTION

I HAVE LEASES, 160-acre tracts up, in Lipscomb and Hemphill Counties where the big play is now on at $2 to $3 per acre. New leases made direct from owner of land to you. Dr. W. R. German, Canadian, Texas.

FOR SALE—All or part of 150 acres of proven productive land in Osage, Wyoming. Land under fee title to 100 per cent or subject to ⅛ royalty. Land located in E½ of Section 13-46-64 and will stand closest inspection, a chance for someone to get into quick production with small investment. Producing sand at 1,350 feet, wells long lifed and average around 50 bbls. of high gravity crude on flush. Address L. M. Snow, 784 Bdwy., Denver, Colo., for particulars.

WE ARE DRILLING seven wells in northeast extension Panhandle fields and expect to open another enormous new oil area soon. I can deliver some 20 and 40-acre leases 2½ miles from these wells at $10 an acre. Good geology. Write for details at once.

E. R. LOVEWELL
Amarillo Hotel Amarillo, Texas.

FOR SALE—Some choice blocks of 200 to 3,000 acres, 5-year paid up leases in Zapata and Star Counties, also a few 40-acre tracts in Star straight 88 form lease 4½ years to run, 20-cent rental, 1½ miles of well now drilling, get in ahead of the play while it is cheap. W. G. Hicks, Laredo, Texas.

OIL LEASES

One-half to 6 miles from Santa Fe Railroad. 2,560 acres in heart of big oil development in New Mexico. Will sell my leases or want them developed. Rental 5 cents per acre, four more years to go. C. L. Fetty, Box 786, Phoenix, Ariz.

HAVE SEVERAL pieces of flush and settled production for sale in Oklahoma and Wichita Falls districts. Prices reasonable and terms can be arranged if necessary. P. O. Box 1144, Dallas, Tex.

WRITE for my state of Texas oil map free. Oil leases exclusively. Reference Mercantile Agencies.

C. W. WEBSTER
W. T. Waggoner Bldg.
Fort Worth, Tex.

TEN-YEAR oil leases. No rentals. Crockett County, Texas. Send for true map. Paul Konz, Box 291, Fort Worth, Tex.

HAVE BUYERS for flush or settled production in Oklahoma and north Texas. Vern R. Hartman, P. O. Box 442, Dallas, Tex.

OIL and gas lease on 10,000 acres for a drilling contract. D. L. Cummins, Haskell, Tex.

PANHANDLE OIL LEASES

We have for sale five-year commercial leases in Hutchinson, Moore, Hartley, Dallas, Sherman, Gray and Hemphill Counties ranging in price from $2.50 to $100 per acre. Write or wire, Brunsvold & McCracken, ground floor, Amarillo Bldg., Amarillo, Tex.

FOR LEASE—20 acres Kern County, California, Section 2, Township 25, Range 23-E. John B. Voerg, 2636 S. 13th St., St. Louis, Mo.

AMARILLO PANHANDLE OIL FIELD

Underwriter Brainard Ranch oil and gas leases, 25,000 acres in Hutchinson County. Hutchinson County is the major producing area. New 5-year leases from 20 acres to 160 acres. Bought right can sell at reasonable price per acre. Write for map and prices. I have handled, as underwriter, over 60,000 acres in the field on which over 80 wells are now drilling or producing. Ed R. Mayer, Amarillo Hotel Bldg., P. O. Box 1186, Amarillo, Tex.

FOR SALE—Leases and settled production in Warren, Allen and Barren Counties, also drilling propositions in shallow territory. Warren and Allen Counties oil is now posted at $2.10 to $2.40 per bbl. and Barren County at $2.85. W. P. Harley, Bowling Green, Ky.

FOR SALE or lease—300 acres tested on all sides, Bartlesville sand. John McQuiston, Route 7, Independence, Kans.

LEASES—PRODUCTION

SOUTHEASTERN NEW MEXICO

10,000 acres state leases in ten townships of southern Lea County. Also drilling blocks in Chaves and Eddy Counties. Address W. A. Nicholas, Roswell, N. Mex.

OIL—BLACK GOLD—OIL

Black gold, oil, you may become an Oil King or Queen. The noted geologist who discovered Signal Hill, Long Beach oil structure, which has produced nearly $200,000,000, and after securing original leases, induced one of the large oil companies to put down a test well, has discovered a large structure in the San Joaquin Valley. The syndicate formed by him on Signal Hill has cleared over half million dollars from an investment of $25,000 and is now paying net profit of over $100,000 per year. Do you wish to join him in a new syndicate? Address P. O. Box 98, Station C, Los Angeles, Calif.

LARGE Texas oil company desires oil leases in California oil fields. Are prepared to begin immediate drilling operations where geological conditions will justify exploration for oil. Give full description of your land and geological report (if any) when answering. Box B-414, The Oil and Gas Journal, Tulsa, Okla.

THREE LOCATIONS FROM PRODUCTION

Forty-acre lease; wish first well drilled for interest on structure. W. K. Mann, 510 N. A. St., Arkansas City, Kans.

FOR SALE—Lease or drilling contract on 450 acres in Section 1, T. 3n, R. 5w, Grady County, Oklahoma. Make me an offer. J. Mazur, 1831 Evergreen Ave., Chicago, Ill.

ROYALTIES—PRODUCTION

BARGAINS IN PRODUCING ROYALTIES

Write me for descriptive bargain list of Texas producing royalties. Have one small $1,000 buy that is such a gem that will give six months' guaranty covering 85 per cent of purchase price. Have another for $10,000, half cash, which offers buyer chance of doubling his money in less than year. Better wire me to rush details if you can handle this last one.

E. D. McMAHON
418 Cotton Exch. Bldg. Ft. Worth, Tex.

KEVIN-SUNBURST HOLDING CORPORATION

Shelby, Montana

We handle royalties and leases in the best areas in this field. Drilling costs low, shallow wells and minimum operating costs makes this field best in United States. Will gladly submit offers upon request.

STEPHENS COUNTY, OKLAHOMA
Wildcat Royalty

4,000 acres scattered, one-fourth royalty, at $4 per acre.
Clyde Miller Duncan, Oklahoma

ONE-FOURTH of land owner's royalty, 80 acres, Butler County, Kansas. Gypsy Oil Co. drilling to Wilcox sand. Owner, 304 Orpheum Bldg., Wichita, Kans.

WANT producing royalties in Arkansas and Louisiana. Give all details. James H. Dugan, Randolph Hotel, El Dorado, Ark.

EQUIPMENT WANTED

WANTED—Two pipe machines. Prefer Landis. Toledo Pipe & Scrap Iron Co., Toledo, Ohio.

ROYALTIES—PRODUCTION

FARMS, LEASES AND ROYALTIES

in Anderson County, Texas. Oil will be found in this county, and now is the time to buy a farm, lease or royalty, before it is brought in. Write for information. J. E. Bennett, Elkhart, Tex.

ROYALTIES WANTED — Principals have $500,000 to invest in best class producing royalties. Complete description and price must accompany offerings. Settled production preferred. P. O. Box 271, Wichita, Kans.

WANTED—Producing royalties Oklahoma and Kansas. Give full details. P. O. Box 502, Independence, Kans.

TEXAS PANHANDLE

Royalties in large or small units to suit any size buyer in fastest growing and most rapid developing oil field in middle west. Write for list of offerings. B. O. Taylor, 306 Blackburn Bldg., Amarillo, Tex.

FOR SALE—EQUIPMENT

TANK BOLTS

⅜x ¾ in., ⅜x⅞ in., ⅜x1 in.
⅜x1¼ in., ⅜x1 in., ⅞x¾ in.

Factory Prices
Write or wire for quotations.

STEEL MANUFACTURING & WAREHOUSE CO.
1447 Genesee St., Kansas City, Mo.

FOR SALE—One No. 27 Star Machine, boiler and tools; machine just rebuilt; has not been run. Will make a good price. Address J. S. Winkler, Chanute, Kans.

FOR SALE—Four second-hand oil well pump jacks; will sell cheap, make us offer. Stroud Water & Light Dept., Stroud, Okla.

USED LINE PIPE FOR SALE

50,000 feet 3-inch
75,000 feet 4-inch
50,000 feet 6-inch

Two miles 60-pound first-quality relaying rails.

For immediate shipment from our Texas yards.

KEYSTONE PIPE & SUPPLY CO.
315 W. T. Waggoner Bldg.
Fort Worth, Texas.

CASING FOR SALE

140 feet 16-inch, 65-pound.
1,100 feet 12½-inch, 50-pound.
1,450 feet 10-inch, 32-pound.
1,500 feet 8¼-inch, 24-pound.
2,000 feet 6⅝-inch, 17-pound.
2,300 feet, 5⅞-inch, 17-pound.

All in good shape, used in one well. Will sell this pipe F. O. B. car.

MID-EGYPT GAS & OIL CO.
Ava, Illinois.

We buy and sell
Casing, Line Pipe and Supplies.
Let us figure with you.
LEE MORRISON SUPPLY CO.
Bartlesville, Oklahoma.

FOR SALE—One 10,000 bbl. oil storage tank K. D. 60 ft. diameter by 20 ft. high, 5-16 in.-1¼ in. and No. 10 steel cover. Center posts supporting cover. Price on application.

OCEAN SHORE IRON WORKS
850 Eighth St., San Francisco, Calif.

FOR SALE—Two No. 19 and 1 No. 25 Armstrong and 1 No. 38 Star drilling machines with complete sets of tools. Rigs are in good running condition. W. P. Harley, Bowling Green, Ky.

20 8,000-gallon tank cars, all equipped with steam coils, safety valves, double rivited heads and belly plate; located in Texas and Tulsa. Price $350.00 each. M. E. Gaskill, 801 Kennedy Bldg., Tulsa, Okla.

CRAGO CUT GEARS

Worthy of your confidence. General machine work. 1416 Walnut, Kansas City, Mo. Phone Harrison 7660.

PIPE FOR SALE

1-in. to 12in. Also complete drilling rigs. We are also in the market for pipe of any size or quantity.

LOUISIANA IRON & SUPPLY CO.
2001 Texas Ave., Shreveport, La.

FOR SALE—EQUIPMENT

FOR SALE

Seven DeLaval Centrifugal Wax Separators No. 600, 7,000 revolutions per minute. Capacity: 180 gallons each per hour. Crocker & Wheeler motors, 2 H. P. each. These machines absolutely as good as new. Have only been used short time. Price $18,000. Either cash or liberal terms. Address Box 1929, Tulsa, Okla.

FOR SALE

1—De LaVergne 65-h.p. Type D.H. Oil Engine.
1—Gould Centrifugal Pump, 1750 G.P.M.
8—14 ft. by 30 ft. fire stills, never been fired.
4—18 ft. by 72 in. 150-h.p. Horizontal R.T. Boilers.
2—De La Val Centrifugal Separators.
Box B-418, The Oil and Gas Journal, Tulsa, Okla.

6—72 in. by 18 ft. 150-h.p. Boilers, clean and all refiued and in splendid condition.
1—5-ton Monarch Caterpiller tractor, nearly new.
1—70-h.p. 2-cylinder Bruce-MacBeth Gas Engine, little used.
AJAX GENERATOR & SUPPLY CO.
708 Ave. F., Burkburnett, Tex.

FOR SALE

60 8,000-gallon tank cars, all equipped with steam coils, safety valves, double riveted heads and belly plate, center anchored, steel underframed, thoroughly overhauled, repainted and A-1 condition; now in service out of Tulsa. A bargain, $750.00 each. M. E. Gaskill, 801 Kennedy Bldg., Tulsa, Okla.

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	1 Time	2 Times	3 Times	1 Mo.
3 lines	1.05	1.80	2.55	3.30
4 lines	1.40	2.40	3.40	4.40
5 lines	1.75	3.00	4.25	5.50
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9 lines	3.15	5.40	7.65	9.90
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Compute white space at the above rates

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THE OIL AND GAS JOURNAL
Tulsa, Oklahoma

TWO 250-horsepower Foos Gas Engines; four 75-horsepower G. E. motors; one 200-horsepower Westinghouse motor, 3-phase, 60-cycle, 2,300-volt; one 78x18 boiler and stack, steel casing, 140-pound pressure; one 14-x14 Chuse Steam Engine; one 8-ply rubber belt, 16-inch; all above equipment in new condition. P. O. Box 21, Dallas, Tex.

35 CENTS a line first insertion; 25c a line each additional insertion. Cash in advance.

CLASSIFIED WANTS

CREATE AND BUILD BUSINESS

MAIL your advertisement now. It will be published next week. Cash with order.

POSITION WANTED

LEASE FOREMAN with eight years' experience desires connection with reliable company or individual. Have been connected with the oil business 20 years. Good references. Box B-430, The Oil and Gas Journal, Tulsa, Okla.

EXPERIENCED land and lease man, either office or field, desires position. Box B-420, The Oil and Gas Journal, Tulsa, Okla.

OIL EXECUTIVE — Thoroughly familiar with all branches of the business, desires connection with reliable company. Have specialized in refining and distribution. Services available after August 15. Box B-416, The Oil and Gas Journal, Tulsa, Okla.

POSITION WANTED in refinery or field, 12 years' experience in refinery, 5 years as assistant superintendent, 3 years field experience. Would consider foreign position. Box B-422, The Oil and Gas Journal, Tulsa, Okla.

LUBRICATING ENGINEER — Technical graduate with wide industrial and power experience and detail study at refinery of internal combustion engine fuels and lubrication, desires position with progressive company. Box B-411, The Oil and Gas Journal, Tulsa, Okla.

OPEN for position doing geological work, making oil and gas surveys, superintendent drilling inspecting properties. Best of reference. Years of experience. Box B-404, The Oil and Gas Journal, Tulsa, Okla.

MECHANICAL POSITION — Technical education, journeyman machinist. Six years technical and practical experience in design, manufacture, construction and installation of oil country equipment and specialties. Previous experience was in contract shop, general mechanical maintenance, and manufacturing. Reliable references. Box B-402, The Oil and Gas Journal, Tulsa, Okla.

CIVIL ENGINEER

Technical graduate with 20 years' exceptionally broad experience including oil field operations. Banking and professional references. Fluent Spanish. Open for foreign engagement only. Box B-370, The Oil and Gas Journal, Tulsa, Okla.

HELP WANTED

SALESMAN WANTED

To handle gasoline, naphtha and motor spirit to the trade in Ohio, Indiana, Michigan and Western Pennsylvania. Only high-grade man with good record will be considered. We want a salesman and not an order taker. Box B 406, The Oil and Gas Journal, Tulsa, Okla.

STEAM SPECIALTY SALESMAN

Wanted to represent us in open territory. Good commissions.

FRANCE PACKING CO.
6510 Tacony St., Philadelphia, Pa.

SALES ENGINEER

Manufacturer of pipe fittings and similar products especially adopted for oil refinery and pipeline service, wishes to engage a high calibre man, preferrably American, capable of increasing its present volume of business. Applicant should have practical experience as well as a technical education, be well acquainted in the East with engineers engaged in the oil industry and with refinery operators, and have a clean successful record. All replies will be absolutely confidential and should give age, experience in detail, present occupation and position and salary expected. Box B-413, The Oil and Gas Journal, Tulsa, Okla.

HELP WANTED

WANTED—Oil country blacksmith with experience making cable tool drilling bits. Box B-391, The Oil and Gas Journal. Tulsa. Okla.

WANTED—Draftsman with refinery experience. State age, education, date available, etc. Lion Oil Refining Co., El Dorado, Ark.

WANTED

WANTED, HIGH GRADE OIL PROPOSITION TO FINANCE
by party who brought out Wall Street's greatest success. J. Myron Murphy, 50 Broad St., New York City.

WANTED—Contractor to take working interest and help finish test well; started with about 15-inch hole, on large promising structure, containing oil and gas seepages in Missouri. Box 230, Findlay, Ohio.

WANTED—Someone who is willing to invest between $8,000 and $10,000 in a proven lease. P. O. Box 653, Lake Charles, La.

DRILLING CONTRACTS
WILDCAT ACREAGE
I have 4,000 acres in Hardeman County located in extreme northwest corner of county, good geology. Will place for deep well and small bonus. Carl G. Wilie, Quanah, Tex.

INCORPORATIONS

DELAWARE incorporators. Charters fees small, forms. Charles G. Guyer, 901 Orange St., Wilmington, Del.

FOR SALE—DOGS

I AM entering college and must sell my fine young police dog. Box 81, Rotan, Tex.

SALE—Pair unrelated white collies, 5 months old; Jefferson bred dogs. Write R. B. Pattee, Caldwell, Kan.

ONE LITTER of 7 Pointers, born May 1. Proctor & Ferris, Manitoba, rap breeding, colose up, enrolled in F.D.S.B., ranch raised, big boned and healthy, very light markings of white and lemon, 2 white and liver. Will take $20 each or best offer as I have no place to keep them. L. R. Graves, Mart, Tex.

FOR SALE—MAPS

OIL DEVELOPMENT county maps; any county in Oklahoma or Panhandle of Texas, 50 cents each. Lindsay Map Co. Scott Thompson Bldg., Oklahoma City, Okla.

YOU have your organization and can give good service. Does the Billion Dollar Petroleum Industry know it? Have you made it easy for oil men to order from you? If not, the surest and best way to promote the merits of your company is to use The Oil and Gas Journal—the oldest and best petroleum publication in the world.

MAP of Texas Panhandle Oil Fields, showing contours drawn on salt, surface elevations surface formations, and some speculative hypotheses as to new producing areas. Price $3. E. R. Lovewell, Amarillo Hotel, Amarillo, Texas.

SOUTHEASTERN NEW MEXICO MAPS
Geological, Ownership and Sectional
Complete and Authentic
Write for folder.
M. H. HUNTER CO.
Roswell, New Mexico

MONEY RAISING

DO YOU NEED MONEY for organizing or financing oil or mining deals? Write 117 E. 10th, Oklahoma City, Okla.

DEPENDABLE
FINANCING SERVICE
Results sure, swift, economical. Employ the One Great Plan—the plan that gets money. Avoid abortive "mail order" and "phony" broker schemes. Describe proposition. Hansel Financing Specialists, 212-GE Earlham St., Pittsburgh, Pa.

MOTION PHOTOGRAPHY

SHOW your wells and machinery in motion pictures, others are doing it. The equivalent of each 1,000-foot standard film now costs you only $24 finished. Charley High, P. O. Box 1071. Studio 2819 E. Third, Phone 3 9598, Tulsa, Okla.

BUSINESS OPPORTUNITY

HAVE CAPITAL to invest in prospecting for new shallow oil field. Submit proposition with full details. P. O. Box 1303, Shreveport, La.

REFRACTIVE INDEX LIQUIDS
Liquids of known refractive index for use with the microscope in examination and identification of sediments. Now in use by the major oil companies in the United States and abroad. For particulars address:
A. C. HAWKINS
40 Nunda Blvd. Rochester, N. Y.

GEOLOGISTS of national reputation have completed examination and made exhaustive reports on large area in the San Joaquin Valley, which is now being leased. Will give responsible oil operators, ready to begin operations, large acreage. Address P. O. Box 98, Station C, Los Angeles, Calif.

ADVERTISING RATES

	1 Time	2 Times	3 Times	1 Mo.
3 lines	1.05	1.80	2.55	3.30
4 lines	1.40	2.40	3.40	4.40
5 lines	1.75	3.00	4.25	5.50
6 lines	2.10	3.60	5.10	6.60
7 lines	2.45	4.20	5.95	7.70
8 lines	2.80	4.80	6.80	8.80
9 lines	3.15	5.40	7.65	9.90
10 lines	3.50	6.00	8.50	11.00

(Six words usually make a line.)

Compute white space at the above rates.
Mail your advertisement to

THE OIL AND GAS JOURNAL
Tulsa, Oklahoma

GAS FIELD FOR SALE

Have 30,000,000 feet of natural gas in a new field in western Illinois that has 15,000 people without gas, less than 4 miles from wells. Will sell the gas at wells, or the entire field. A rare chance for a distributing company.
GOAG OIL COMPANY
900 Security Bldg. St. Louis, Mo.

DRILLING CONTRACTS
WILDCAT ACREAGE
I have 15,000 acres 10-year Texas special lease in Motley County near Roaring Springs; will place for well to be drilled at once; will want small bonus. Carl G. Wilie, Quanah, Tex.

NEW GAS SECTION in northwestern Pennsylvania; shallow drilling; gas at 35 cents per M.; large area proven out; pipeline extensions made wells connected. Recommended the drilling of present wells. Have completed a geological report. Address V. A. Billstone, Jamestown, N. Y.

SHALLOW drilling proposition and close up leases in Brown County. Frank Poorman, 3215½ Ross Ave., Dallas, Tex.

WILDCATTERS ATTENTION
Will exchange 10,000 acres oil and gas leases on first class geological structure in Polk County, Wisconsin, for test well; natural gas seepage; shallow drilling. George Laskowske, Turtle Lake, Wis.

DRILLING PROPOSITIONS in Ohio and Warren Counties, Kentucky; 1,000 to 3,000 acres for the drilling of one well. R. E. Cope, Bowling Green, Ky.

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CHICAGO MARKET ACTIVE; PRICES DISPLAYING AN UPWARD TREND

By J. B. Waldo

CHICAGO, July 31.—At the close of the week demand was still active, price showing an upward tendency on practically every product. There is this difference as regards the heavy and light products, the strength of gasoline and kerosene results from an active and immediate demand while the advancing quotations for the heavy products are based to a great extent on the outlook for future demand and supply.

Every seller of gasoline reported a good business during the days between Monday and Friday and in several cases the statement was made that the company reporting had booked more cars for immediate and nearby delivery than during any previous week in recent years. The jobbers bought freely for immediate delivery rather than for future needs, although there were some sales that would care for the output of the buyer for some weeks. Some of the largest jobbers of gasoline in the West and Northwest were represented among the buyers and it was evident that the recent gallonage of the jobbers has in many cases drawn on their stocks until they were in need of supplies. There was a considerable demand for cars in transit as well as for shipment from the plant. The close of the week which was also the end of the month had little gasoline offered from contracts with refiners which were expiring and there was practically no distress gasoline available in the wanted gravities which are the U. S. Motors and 56-58 450 or similar gravities below the Navy grade. The demand for the higher tests is still limited and where prices have been marked up a shade it is rather because of the strength of the prices for Navy than because of any increase in the inquiry for the higher gravities. Natural gasoline is reported as in better demand and more firmly quoted at prices somewhat higher than last week.

Interest in Future

There is a great deal of interest manifested in the coming months and great diversity of opinion regarding the course of prices. Naturally refiners believe in higher prices and their statements as to stocks on hand and the volume of the demand for their gasoline product is in line with the prices they are asking for shipments over August. At the beginning of the week, Navy gasoline was available from most refiners at 11½ cents and this was the general spot market. Gradually refiners began to advance their quotation to 11¾ cents and at the close of the week this was the price held to in their quotations to the trade by practically all refiners and many marketers although there were sales made at the 11½-cent price right along to the close of the week and month. The 56 58 450 gravity was advanced from 11 to 11¼ cents. At the close of the week 11¾ cents was the commonly quoted price to the trade with a few selling limited quantities at 11½ cents and a very little transit stuff offered by one or two marketers for immediate acceptance at 11¼ cents for Navy gasoline. This latter might be classed as distress stuff.

It is regarding the August price situation that the trade is at variance and really the difference of opinion comes back to the kind of weather likely to prevail for the next few weeks or in fact for the next three months. One of the old-timers said that with good weather gasoline sales would show little falling off during September and October compared with the peak month of August and that with closed cars now so common October was really one of the most pleasant months for driving if the weather was good. On the other hand the trade has not forgotten last June and is inclined to be cautious. Several leading marketers state they have not purchased a gallon for August delivery and will cover their needs only as the month progresses. They also say that the jobbers have bought very freely now for two weeks and have a lot of gasoline coming to them and cannot be in the market on the same scale right along. That refiners are speeding up their runs and that once the present orders are filled they will strike a dull spell and some one is sure to cut the market. The refiners' reply is that stocks have been much reduced by recent orders and that there is a lot of orders ahead of the stills and that by the time they are caught up, the jobbers will have sold their present supplies and be in the market for more gasoline. So that really the argument goes right back to the weather from now on. August is usually a dry hot month and the fact that there was not a favorable spring is as liable to work for a fine fall as the other way.

Kerosene Demand Slower

Kerosene is still selling largely but the demand is not as insistent as it was last week and even for the first day or two of this week. Jobbers still want kerosene but most of them have placed orders and they are pushing for deliveries of purchases made and there is as a whole less new business reported. The market is strong as yet but few expect further advances and some a recession from the present peak of 8½ cents for 41-43 gravity kerosene. The spread of prices is rather wide for some are still offering kerosene for immediate acceptance at 8 cents while some of the refiners are holding firm at 8½ cents. Several have quoted that price for the whole of August while buyers state that they can purchase at 8¼ cents. A little kerosene was offered at the close for immediate acceptance at 7½ cents out of north Texas but this was an exceptional case although there have been some prices quoted where the freight differential was favorable at less than the Group 3 market. The general idea of the trade here is that the recent demand is not likely to continue and that present supplies including the cars on order will be adequate to the needs of the country jobbers until the fall demand springs up with the close of the crop season. The 42-44 gravity is very sparingly offered and the demand equally light. Some was offered by a north Texas refinery this week.

Distillates Active

There is a good deal of action in the distillate situation. It is not so much in the immediate business done as in the efforts of the dealers and even some refiners to work out a settled basis for next fall and winter. The oil burner men are still urging the refiners to make it possible for them to sell more equipment by naming low prices for furnace oil claiming that by so doing the refiner will increase the market for this product. Refiners reply that this is all very well but that they cannot see how it is to their great advantage to sell furnace oil and thereby deprive themselves of the profit that they believe it possible to make by using the same material for other products. One former large source of supply for distillate has announced this week that it will have no distillate to sell this season, the Marland Refining Co. being the concern. It may have a few cars from time to time but plans to crack everything that can be cracked and run it into gasoline. Others may do the same. This reduces the number of available sources of supply. One of the executives of a leading organization stated that his company did not want furnace oil business but would care for the needs of its gasoline and kerosene customers so far as possible without sacrificing its other products. Some refiners have made contracts with customers who will handle their entire line on very favorable terms. In some cases the refining organization agrees to sup-

(Continued on Page 122)

EASTERN SITUATION IS FAVORABLE, GENERAL UPTURN SOON EXPECTED

By N. O. Fanning

New York Bureau, The Oil and Gas Journal, Room 543, 30 Church St., New York

NEW YORK, July 30. — The eastern refined oil markets were quiet but firm during the past week. Gasoline consumption was reported heavy and moving at a satisfactory rate from the viewpoint of existing production and stocks.

Strength in kerosene was prevalent, with an advance in the tank car price of ½ cent to 10 cents. Refinery kerosene is quoted around 9 cents, but some refiners are temporarily out of the market.

The situation generally is favorable, in the opinion of marketers, who see in the strength in kerosene and firm tone shown by fuel and gas oils, indications of a general upturn in the market in the near future. This is based partly, too, on steady withdrawals from storage of crude and some grades of refined oil.

The California situation is said to be steadily improving. Overproduction is not feared as strongly here as in the West. The reports of big pools coming in in Texas are generally discounted in this section.

Lubricating oils are somewhat irregular, with a good demand for cylinder oils, but a falling off in that for neutrals, reds and pale oils.

Paraffin wax is firmer, but prices have not changed this week. Petrolatums are dull, and prices unchanged.

Export Market

The oil export market was quiet during the week, with no important price changes. Bright features of the movement included heavy shipments of paraffin wax and petroleum asphalt. Refined wax exports aggregated 3,266,680 pounds, while those of crude scale totaled 1,150,450 pounds, a total of 4,417,130 pounds.

Shipments of cased gasoline and kerosene to Brazil were rather large. Case shipments to the Orient were comparatively light. Chinese and Australian buyers were reported to have placed several large orders with Gulf Coast refiners, aggregating some 500,000 cases, for August-September delivery.

Russia is reported active in the European refined markets, especially with regard to gasoline, red oils and pale oils. It is also claimed that American distributors are being undersold in some instances. Inasmuch as some large American companies have recently purchased considerable Russian kerosene and the actual volume of Russian business in Europe is still limited, no alarm is expressed with their activities.

The following table shows principal exports of petroleum and petroleum products from New York reported during the last three weeks (figures in gallons unless otherwise noted):

	Week Ended		
Gasoline:	July 28	July 21	July 14
Bulk	708,662	774,566	1,775,369
Barrels	202,500	150,000	.....
Cases	1,785,000	1,837,650	904,500
Kerosene:			
Bulk	716,354	4,805,650	789,341
Cases	1,188,500	1,634,050	1,598,460
Gas oil:			
Bulk	.....	.....	751,298
Lub. oil:			
Bulk	.....	.....	1,943,631
Barrels	1,459,400	883,800	1,229,150
Cases	165,450	122,180	155,810
Lub. grease:			
Barrels (lbs.)	607,500	117,900	454,500
Paraffin wax:			
Bags (lbs.)	3,266,680	2,157,760	3,368,420
Barrels (lbs.)	1,150,450	.....	.....
Petroleum asphalt:			
Barrels (lbs.)	3,726,850	373,500	1,599,400

The foregoing figures include individual shipments of 500 bbls., 1,000 cases, or more.

Tanker Charters

The tanker market continues active, especially in the export rade. New fixtures include two vessels for case oil. Recent charters follow:

Tanker Caloria (Am.) 2,543 tons net, Tampico to Boston, 34 cents, August loading.

Tanker Gobeo, Span. 2,088 tons net, Gulf to United Kingdom, 30s, lubricating oil, August loading.

Motorship Athelprince (Br.) 12,600 tons net, fuel oil, Tampico to United Kingdom, 25s, August-September loading.

Steamer Poleric (Br.) 3,907 tons net, Gulf to China, 200,000 cases, 33 cents a case, August loading.

Motorship Skramstad (Nor.) 2,455 tons net, Gulf to four ports of Austrialia, 175,000 cases, basis 35 cents, September loading.

Tanker Vanduara (Br.) 6,500 tons clean oil. Batoum or Novorossisk to United Kingdom-Continent, 23s, August loading.

Tanker Massassoit (Ger.) 4,600 tons net, crude oil, Novorossisk to Sulina, 8s, option Weser, 23s, October loading.

Tanker Dixiano (Am.) 3,918 tons net, Gulf to north of Hatteras, 25c, option Tampico, 28c, August loading.

Motorship Capena (Ital), 6,500 tons net, Batoum to United Kingdom-Continent, 21s 6d, August-September loading.

Oil Receipts

Receipts of crude and refined oil at Atlantic ports for the week ended July 28 are estimated at 4,463,000 bbls., a daily average of 638,000 bbls. compared with 3,144,000 bbls., or 449,000 bbls. daily, for the week ended July 21.

Receipts from the Gulf Coast totaled 2,821,000 bbls., a daily average of 403,000, as against 2,155,000 bbls., a daily average of 308,000, the preceding week.

Receipts of California oil totaled 435,000 bbls., compared with 384,000 bbls. the week ended July 21. Daily average receipts were 62,000 bbls., against 55,000 bbls.

Imports showed a considerable gain, aggregating 1,207,000 bbls. during the week ended July 28, a daily average of 172,000 bbls. Of this quantity, Mexico contributed 915,000 bbls., or approximately 131,000 bbls. a day. South America contributed a total of 292,000 bbls., a daily average of 41,000 bbls.

Imports for the week ended July 21 totaled 605,000 bbls., a daily average of 86,000, of which Mexico contributed 340,000 bbls., or 49,000 bbls. a day, while South America contributed 265,000 bbls., a daily average of about 39,000 bbls.

Imports from South America in which division Trinidad is included) for July will constitute a record, it is believed. This is due partly to the addition of Columbia to the list of contributors to Atlantic Coast refinery requirements.

The following table shows estimated daily average receipts of crude and refined oil by water at Atlantic Coast ports from the Gulf and Pacific Coasts of the United States, and imports, for the last three weeks; also monthly record for the last 12 months (figures in barrels):

	Week Ended		
	July 28	July 21	July 14
Gulf	403,000	308,000	213,000
Pacific	62,000	55,000	32,000
Imports	172,000	86,000	133,000
Total	637,000	449,000	478,000

Daily Averages by Months

1926—	Gulf	Pacific	Impts.	Total
June	396,000	104,000	135,000	635,000
May	318,000	66,000	139,000	523,000
April	326,000	92,000	146,000	564,000
March	317,000	97,000	178,000	592,000
February	332,000	73,000	122,000	527,000
January	279,000	59,000	96,000	434,000
1925—				
December	298,000	56,000	103,000	457,000
November	259,000	36,000	92,000	387,000
October	249,000	36,000	102,000	387,000
September	306,000	66,000	76,000	448,000
August	291,000	54,000	90,000	435,000
July	391,000	63,000	107,000	561,000

The foregoing estimates are based on the carrying capacity of incoming oil-laden tankers.

BOOST LULING OUTPUT

The Magnolia Petroleum Co. which bought the North & South Oil Co. production in the Luling Field, taking possession on June 1, has increased the number of rigs running in the field to eight and has already run production from North & South leases up from approximately 15,000 bbls. to 18,000 bbls. daily. Magnolia owned some production in the field prior to buying out the North & South.

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Increase Yields at Johnson Refinery

New Bubble Towers and Cracking Equipment Changes, Also the Installation of New Type Pumps, Add to Output

By Neil Williams

A substantial increase in crude capacity coupled with a more efficient operation and greater possible yields has been the direct result of the extensive improvement program just completed by the Johnson Oil Refining Co. at its Cleveland, Okla., plant.

General improvements include four bubble towers, hot oil pumps at both the skimming and cracking units, a complete new water system and new power plant equipment. In addition, a modern gas recovery plant was put in operation about a year ago and can be listed among the innovations at the refinery in the last 12 months.

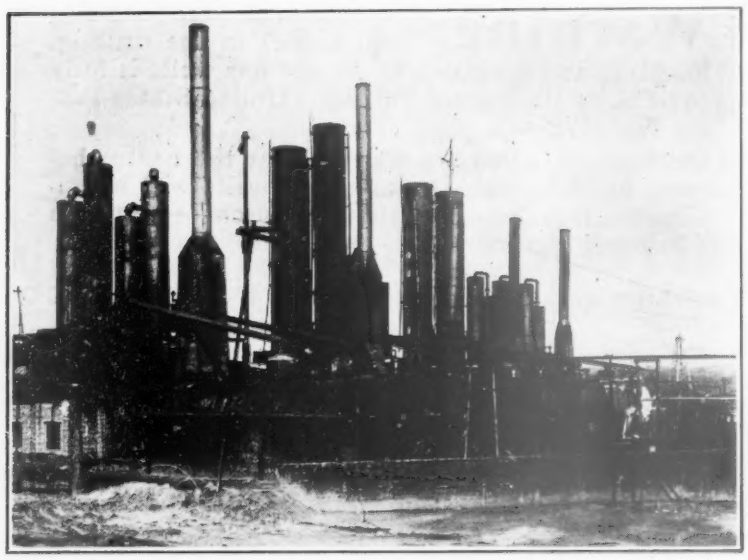
Installation of the bubble towers has enabled a closer fractionation and more efficient operation while the new hot oil pumps have made it possible to push a greater amount of charging stocks through the stills. The new water system has eliminated many troubles and expense formerly incurred by the use of river water.

The gas recovery plant also has added materially to the efficiency of the refinery by saving gasoline vapors formerly lost in gases from the stills and tanks. These gases, both from the crude stills and cracking units and vapors from storage tanks, now are directed through the recovery plant where the gasoline is extracted.

With these additions, the Cleveland refinery embodies some of the most modern and efficient equipment and practices in the industry. A feature of the installations was that although they necessitated many changes in operations, they were accomplished without a shutdown.

Results from the installation of the bubble towers have proved extremely satisfactory. The towers which follow the same general design of similar equipment at other refineries, have given closer cuts of gasolines and kerosenes. At present the plant is being run principally for gasoline with a small cut of kerosene. The percentage of kerosene can be varied from 18 per cent to practically nothing.

The towers in the Cleveland plant installation are of a simple type so their operation is not greatly involved. Each is run for only one cut off the still to which it is connected and thus the more complex process of taking cuts from several different levels and temperatures in one tower is avoided.



General view of the Johnson Oil Refining Co. skimming plant showing the crude and pressure distillate stills and the tower installation. The four single towers in the center comprise the new equipment. The first six stills make up the crude battery.

These towers do not shorten refinery operations as the charging stock still has to make the run of all the stills but they do make a closer fractionation of the vapors passing through and produce products of more accurate specifications.

Location of Towers

While a new bubble tower was not installed on each of the 10 stills at the plant, the four were placed at what might be termed the most strategic points, that is, on vapors of stills where it was necessary to draw the closest dividing line on the products produced. On the remaining six stills the old baffle type double towers were left in use.

To show the placement of the towers as connected with the plan of operation at this refinery, it is necessary to give a general description of the plant. The refinery includes a battery of 10 ordinary shell type stills, 5 of which run a crude charge and the remainder the pressure distillate from the four Dubbs cracking units.

Under present operation, crude enters the first still after passing through heat exchangers. Vapors from this still are led through a double baffle tower and then to a condenser, coming out a gasoline of light gravity. The heavier ends knocked back in the baffle tower and the unvaporized crude then flow to the second still.

From this still the vapors, passing through a second double baffle tower and a condenser, come out a gasoline of slightly heavier gravity than from the first still. From this second still, the remaining crude charge is pumped to the third still over the first of the new bubble towers.

It is at this stage and in the next, or fourth still, chiefly the latter, that the Cleveland operations require a closer cut to eliminate all undesirable ends. Ordinarily only a U. S. Motor product is needed from the plant so streams from all gasoline stills are run together, the blend meeting 58-60 437 endpoint specifications.

This being the case, a closer fractionation between the lighter ends of gasoline is not as important as at the latter stills where heavier endpoint products than gasoline are knocked back. Thus, the new towers were placed on the third and fourth stills.

The tower on the third still is 38 feet high and 6 feet in diameter, containing 16 plates. As the vapors pass through successive trays of cooling liquid more and more of the undesirable ends are condensed and fall back until the top plate is reached where only a product of the desired specifications is allowed to leave the tower.

On the fourth still where a close fractionation is still more important to get the last drop of gasoline, a bubble tower with additional plates was constructed. This tower is 42 feet high but the same diameter as the first tower. This tower takes the fourth cut from the crude.

The reflux from this tower and the bottoms then gravitate to the fifth still where a cut of approximately 38 gravity is taken off from the old type baffle tower. The remainder of the charge, termed topped crude, which is about 26 gravity fuel oil, then is pumped to the Dubbs cracking units.

The other two new bubble towers were installed on the battery of four stills handling the pressure distillate rerun from the cracking plant. These towers are operated on the last two stills for the same reason that the other towers were placed on the last two stills of the crude battery. Each of these towers is 38 feet high and 6 feet in diameter, containing 17 plates.

Temperatures at the top of the bubble towers are regulated largely by coils through which part of the crude charging stock is pumped. Before flowing into the first still part of the crude is directed through the heat exchangers and the remainder through these coils, both streams of heated oil later coming together. In operating the coils if the temperature of vapors leaving the tower is too high more cold crude is pumped through the coils.

In this way the raw crude not only serves to maintain a uniform temperature control in the towers but also the latter act as a preheater for the raw crude. This has been an important means of reducing fuel costs to a minimum.

Increases Capacity

In addition to the increased efficiency provided by these improvements, the actual crude capacity has been boosted more that 1,000 bbls. daily. No changes were made in the stills, the boost being due entirely to a higher rate of distillation. The plant now has a rated distillation capacity of 5,000 bbls. daily and 5,500 bbls. can be handled.

Four new hot oil pumps at the cracking units have been one of the most important additions to the plant. It has been known for some time that a pump on the reflux line of a Dubbs still materially increased efficiency of operation. When operating by gravity, the recycling of the reflux is slow and uncertain but a pump gives a positive force to the stream.

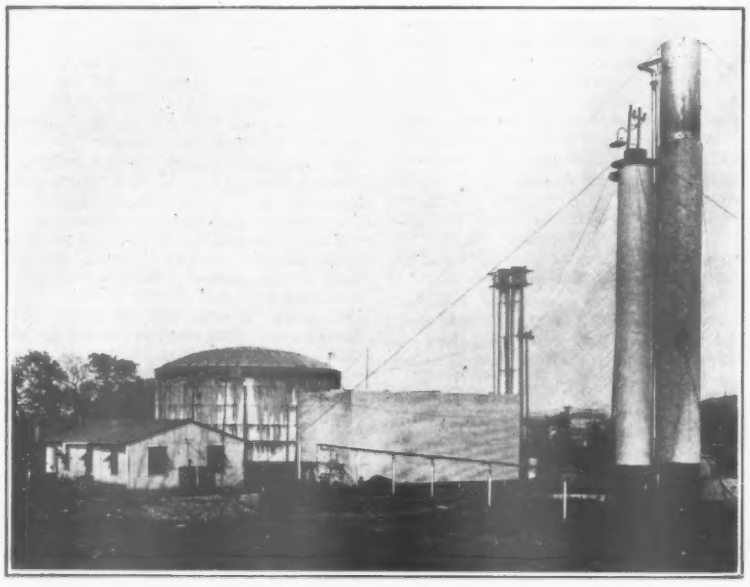
New Type Pumps

Accompanying pictures show one of the pumps installed at Cleveland. It is a Dow Surge hot oil pump of Thompson patent, and is a duplex, double acting type. The four pumps installed at this plant are the only ones of their size and capacity in operation on Dubbs units.

As shown in the picture the valves are located at some distance from the pump in the surge block. The pump is connected with the surge block by four 16-foot surge bends filled with cold raw oil. The pump works on this cold oil all the time, drawing in and forcing out the same slug of oil over and over.

The action of the pump on the cold oil draws the hot oil from the reflux leg through the valves and forces it along through the line. The cold oil which the pump works on would become slightly heated by convection if it were not for the fact that a small amount of new oil is charged continuously into the pump.

These features make it possible to operate this pump continuously on cold oil and at the same time move hot oil in the Dubbs circuit. In addition to providing safety, efficiency and low cost of upkeep, the four new pumps have increased the capacity of the cracking units about 35 per cent and the percentage of gasoline yields from the pressure distillate about 6 to 8 per cent.



The gasoline recovery plant at the Johnson refinery. At the extreme left is the building housing the compressors.

Water System

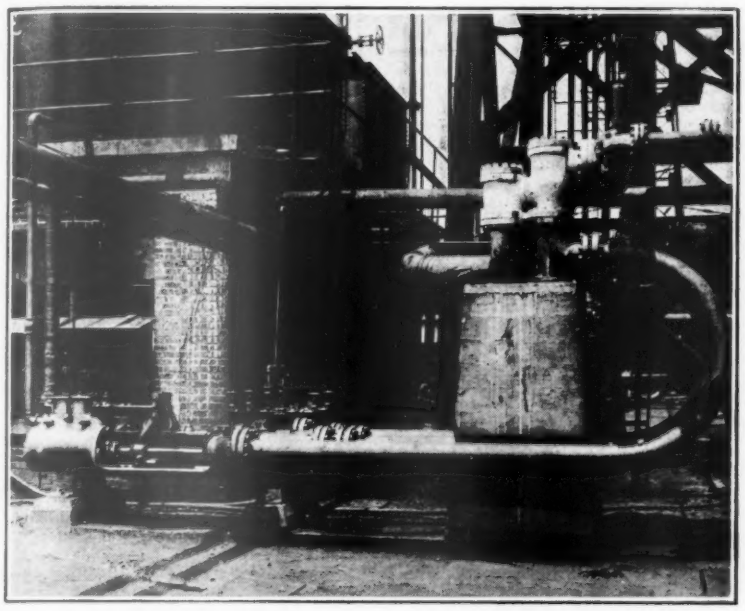
Most of the water problems at the plant have been solved by a complete new water system which delivers 1,500 gallons a minute, or 2,000,000 gallons a day, at the plant at a temperature of only 62 degrees. The water comes from three deep wells across the Arkansas River, 2 miles from the refinery, the flow being from a coarse sand or fine gravel. Each well is pumped by a new 40-horse-

power electric motor. Although now running 500 gallons a minute each, the wells are not being pumped to capacity, which assures the plant an adequate supply of cool water.

The water for the refinery formerly was pumped from the Arkansas River but this proved very unsatisfactory. In the heat of summer, this river water sometimes came to the plant at a temperature as high as 110 degrees. This caused great difficulty in cooling and never permitted the most efficient operation of the plant.

Power Plant

Power for the pumps is furnished from a 225-horsepower generator, also only recently installed. This also generates



One of the four surge type hot oil pumps at the cracking plant. The pump itself is at the lower left and the surge blocks are on the concrete base with the surge bends connecting the pump and the blocks.

the power for the company's privately owned electric system, including the light over the property. A private high line also was built from the plant to the water pumps, a distance of 2 miles.

Six boilers generate the steam to operate the four Dubbs crackers, the hot oil pumps and the large generator. These comprise one power plant. Five additional boilers furnish the heat for the skimming stills and towers. Although the skimming and cracking plants are some distance apart, it is planned to enlarge the power plant near the cracking plant and operate the entire refinery from it.

Crude for the plant comes mostly from nearby fields. The Johnson company has some production of its own but in addition it has an extensive pipeline system touching several important pools.

The gasoline as it comes from the stills requires no acid treating except for slight sweetening, this being accomplished by running it through the continuous treating system where it is washed with sodium plumbite. The pressure distillate before going to the rerun stills is given an acid treatment but the finished gasoline is run only through the sweetening process with the straight run product.

Gas Recovery Plant

Most of the natural gasoline needed can be furnished by the company's modern recovery plant which was put in operation last summer. This plant, at present turning out about 1,500 gallons of gasoline daily, has a capacity of approximately 4,000 gallons daily.

The plant has proved a very economic addition to the refinery as formerly practically all this gasoline was lost in escaping vapors or was burned in the gases used as fuel. Now all vapors from the storage tanks and uncondensed gases from the stills are collected and run through the recovery plant.

Some of the gases run through the plant are of unusually high gasoline content ranging upwards to above 7 gallons a thousand cubic feet. Other gases, however, are as low as 1.2 gallons a thousand cubic feet.

The plant is of the combination compression and absorption type and is operated similar to ordinary natural gasoline plants. The gases first pass through the compressor where some gasoline is taken off, and then through the absorption oil in the absorber and then to the still. The plant has about 90 per cent recovery and the gasoline runs very light, usually around 85-90 gravity.

One of the biggest problems of the refinery has been to dispose of the residuum from the Dubbs crackers. This problem, however, is being worked out very successfully as a result of numerous experiments which have been under way.

ROCKY MOUNTAIN AREA

(Continued from Page 38)

continued, the location is in Section 11-39-79.

The Prairie Oil & Gas Co. found a dry hole in the Lost Soldier Field in Carbon County, in Section 3 26 90, at 2,555 feet, and another duster in the Red Desert in Section 7-27-95, in the Buffalo Basin, which went to 2,775 feet.

The Ohio Oil Co. and the New York Oil Co. are drilling two wildcats near Aberdeen, Wash. The Ohio's well is on Section 10-16-1 and is at 1,380 feet, and the New York's well is fighting a crooked hole at 1,200 feet with a gas flow of about 250,000 feet at 1,145 feet.

Utah Tests

The well of the Midwest Refining Co. and the Utah Southern Oil Co., on the Cane Creek structure, south of Moab, Utah, is waiting for cement to set at 3,272 feet. This is the discovery well.

The Utah Southern Oil Co., drilling on the Lockhart Canyon structure, near Moab, has made location and placed a camp. On the Cedar Mesa, San Juan County, Utah, the Utah Southern Oil Co. and other firms interested have built camp and are moving in equipment. The Utah Southern Oil Co.'s No. 1 on the Canyon Dome, San Juan County, Utah, is shut down at 1,030 feet.

South Dakota Test

H. R. Plassen and others of Rapid City, S. Dak., will drill a test near that city with a core drill. The syndicate has what is believed to be an oil-bearing structure, but the sands are expected to lie deep. By drilling with a small core drill, the hole will test the formations and at a much less cost than if the standard tools were employed.

Runs From the Fields

Salt Creek	49,510
Teapot	1,050
Big Muddy	3,310
Grass Creek	3,170
Elk Basin	840
Greybull	20
Rock River	2,730
Notches	310
Rex Lake	200
Lance Creek	1,370
LaBarge	160
Poison Spider	1,060
Osage	350
Hamilton Dome	1,130
Lander	260
Byron	30
Pilot Butte	370
Lost Soldier	5,540
Ferris	60
Simpson Ridge	180
Cat Creek	2,800
Lake Basin	200
Sunburst	25,000
Florence	430
Moffat	3,710
Tow Creek	650
Fort Collins	4,410
Boulder	25
Rangeley	100
Hogback	720
Rattlesnake	1,220
Artesia	3,000
Total	114,075

OKLAHOMA FIELDS

(Continued from Page 48)

Co.'s No. 3 Pruett, NE cor. SE NW, Section 3-2-3w, sand at 1,965-2,0002 feet, 1,515 bbls. of 35.5 gravity oil, total depth 2,047 feet. Humble Oil & Refining Co.'s No. 1 C. Johnson, NE cor. SW NE, Section 4-2-3w, leases expired while drilling, dry and abandoned at 3,500 feet. Humble Oil & Refining Co.'s No. 1 Suiter, NE cor. NE, Section 4-2-3w, pay sand at 3,011-45 feet, 240 bbls. of 36 gravity oil, total depth 3,291 feet, plugged back to 3,045 feet and completed. Coline Oil Co.'s No. 5 Higgins, SE cor. SW NE, Section 7-2-2w, old well drilled deeper, drilled from 1,612 feet to 2,774 feet, top of sand at 2,770-74 feet, hole full of water, plugged back to 2,423 feet and perforated casing from 1,531-1,678 feet and 1,811-2,381 feet, first 24 hours' gauge was 103 bbls., second 24 hours gauge was 113 bbls., put on pump. F. W. Merrick and others' No. 3 J. Peters, NW cor. NE NE, Section 27-2-2w, broken sand at 1,274-77 feet, 23 bbls. of 26 gravity oil. Humble Oil & Refining Co.'s No. 4 Jordon, NE cor. SE NW, Section 19-1-3w, shut in for 19,000,000 feet of gas at 3,084 feet. Humble Oil & Refining Co.'s No. 4 Lusk, SE cor. NE, Section 33-1-3w, sand at 3,152-77 feet, 142 bbls. naturally. Drilled to 3,414 feet, plugged back to 3,177 feet and completed. Magnolia's No. 3 R. McLish, SE cor. NE SW, Section 34-1-3w, sand at 3,015-27 feet, 392 bbls. of 33 gravity oil, total depth 3,029 feet. Schermerhorn Oil Co.'s No. 2 Miller, SE cor. NW NW, Section 34-1-3w, dry and abandoned at 3,510 feet.

ARTESIA, NEW MEXICO

(Continued from Page 34)

27, shut down at 2,005 feet preparing to shoot 45 feet of sand lime washing oil; Cook-Ironside No. 1, Section 10-20-29, drilling below 1,700 feet; Decum Development Co.'s No. 1 Vandagriff permit, Section 5-17-28, drilling below 2,350 feet, 2,000 feet of salt water in hole; Flynn-Welch & Yates' No. 47, Section 28-18-28, drilling below 2,650 feet; No. 49, Section 3-18-28, drilling at 400 feet; No. 3 Dunn permit, Section 10-18-28, drilling at 250 feet; Hasenfuss & Donley's No. 2, Section 13-18-27, shut down; Harris & Rehn's No. 1 Winan's, Section 15-18-26, struck artesian water; Henderson-Dexter-Blair's No. 1, Section 9-19-28, drilling 750 feet; Ohio Oil Co.'s No. 2 New States Section 8-18-28, shut down at 2,525 feet, will probably abandon. Phillips & Welch's No. 1, Section 35-17-28, drilling at 2,025 feet, have 1,000,000 feet of gas; Swartz-Compton-Eaton's No. 1 Brainard permit, Section 5-18-27, drilling at 1,975 feet; Sun Oil Co.'s No. 1, Section 21-25-30, drilling below 1,000 feet; Skelly Oil Co.'s No. 1 Lynch permit, Section 22-17-31, drilling at 2,175 feet, have 500,000 feet of gas; Snowden & McSweeney's No. 2, Section 33-18-28, cleaning out after shot, will carry hole to 2,700 feet; Bruce Sullivan's No. 1, Section 1-18-31, drilling below 500 feet; Twin Lakes Oil Co.'s No. 8, in Section 28-18-28, pulling casing preparing to shoot; Merriweather and others' No. 1 Goodale, Section 19-18-29, drilling below 2,250 feet; Wooley-Jones' No. 1 Beeson permit, Section 33-17-30, making pumping test bottom of hole 2,999 feet, carrying both oil and water.

A. F. Corwin Resigns As Carter President; To Join New York Co.

Arthur F. Corwin has resigned as president of the Carter Oil Co., a subsidiary of the Standard Oil Co. of New Jersey. It is understood that Mr. Corwin is slated to become head of production for the Standard Oil Co. of New York.

Ever since the New York company acquired control of the Magnolia Petroleum Co. it is rumored that the New

A. F. Corwin

York company directors have been anxious to amplify their board of directors by the addition of a director who was a production executive.

The Magnolia Petroleum Co. is one of the most prominent producing companies in the Mid-Continent Field, and for the past few years it has been conducting a very vigorous and aggressive drilling campaign.

Mr. Corwin entered the service of the Carter Oil Co. in the West Virginia fields and has an uninterrupted service record with that concern of 25 years. Starting as a warehouse clerk, he was employed in various capacities and forged his way to promotion.

R. M. Young of Tulsa, Okla., who is vice president and general manager of the Carter Oil Co. is talked of as Mr. Corwin's successor.

COLOMBIA RESTRICTS NEW OIL CONCESSIONS

It is reported from Bogota, Colombia, that an executive decree has been issued confirming a law passed last year limiting the extension of oil concessions and regulating the industry. This law calls upon individual oil companies to sign a declaration that they will submit whatever disputes may arise to the courts of Colombia without diplomatic intervention.

Representatives of several American oil companies believe the decree is very restrictive and that it will prevent capital investment. Companies and individuals who obtained concessions before 1919 are not affected by the law.

EXCLUSIVE LICENSEE

The Geophysical Research Corp., of 65 Broadway, New York, has announced it is the exclusive licensee under the Fessenden patents for the location of oil and gas and geological structures favorable to the accumulation of oil and gas. The patents are broad and basic in nature, it is claimed, and include so-called seismograph methods.

REFINING AND MARKETING

ONLY TWO CHANGES IN TANKWAGON PRICES

Gasoline tankwagon prices throughout the United States during July showed practically no changes. Prices were changed at only two of The Oil and Gas Journal's 50 representative cities. Due to this fact the table giving the changes for the month at the 50 points will not be published. The June report appeared in the July 8 issue.

The tankwagon price at Albuquerque, N. Mex., was reduced from 26.5 to 25.5 cents on July 17, and the price at Tulsa advanced from 16 to 17 cents on July 24. These two changes offset each other so that the average price on August 1, for the 50 cities was 19.697 cents, the same as on July 1. These averages are exclusive of taxes.

One change occurred in the state tax on gasolines. The tax of 1 cent in North Dakota was advanced to 2 cents on July 30. Following is the average tankwagon price for the 50 cities on the first day of each month:

August 1	19.413
September 1	16.703
October 1	15.808
November 1	15.528
December 1	15.763
January 1, 1926	16.133
February 1	16.213
March 1	17.267
April 1	18.517
May 1	18.487
June 1	19.607
July 1	19.697
August 1	19.697

EMPIRE SHIPMENTS

Tank car shipments of the Cities Service subsidiaries, Empire Refineries, Inc., Cities Service Refining Co. and Crew Levick Co., total 4,939 cars in the month of June, an increase of 30 per cent over the same month a year ago. In the six months period they total 2,641, an increase of 36.42 per cent. They moved to 41 states of the Union, and into Canada, Cuba and through export stations at St. Rose, La., and Petty Island at Philadelphia to European countries.

POSTPONES PETROLEUM RATES

WASHINGTON, D. C., Aug. 2.—The Interstate Commerce Commission has initiated an investigation of rates on petroleum between points in Colorado and Kansas, and Oklahoma to Colorado. In an order issued by the commission the operation of schedules filed by defendant railroads was to become effective July 26 and the commission orders that these increases be suspended pending investigation or until August 26.

TEXAS GASOLINE SALES

AUSTIN, Tex., Aug 2.—Gasoline sales taxes of $450,000 were collected during June, S. H. Terrell, comptroller, announced. This was a gain of $15,000 over the previous month. A total of $345,296 was paid by the five largest refining companies. Gulf Refining Co. led with $105,491. Others were Magnolia Petroleum Co., $91,159; The Texas Company, $87.283; Pierce Petroleum Corp., $34.466; Humble Oil and Refining Co., $26.895.

NEW PORTABLE PLANTS

A new portable gasoline plant has been installed on a lease owned by the Indian Territory Illuminating Oil Co., northeast of Seminole, Seminole County. The Empire organization also will install another portable plant on leases of the Empire Gas and Fuel Co. near Pampa in the Amarillo district.

SOUTH PENN OIL CO. PURCHASES 51 PER CENT INTEREST IN PENNZOIL

By George Turnbull

OIL CITY, Pa., July 31.—Probably the largest transaction in the history of the oil refining industry in western Pennsylvania was consummated yesterday when the South Penn Oil Co., of Pittsburgh purchased a 51 per cent interest in the Pennzoil Oil Co. of Oil City.

L. W. Young, Jr., president of the South Penn Oil Co., who was in Oil City in connection with the closing of the deal, stated that there would be no change in the management of the Pennzoil company as the result of the purchase and that the men who have been in charge of the Oil City concern were well qualified to continue the business which they had built up to such a great plane. Mr. Young also emphatically denied rumors that the South Penn was negotiating for the purchase of other refineries.

The South Penn Oil Co. has been a producer of the Pennsylvania grade crude oil practically since the infancy of the industry, and is today the largest individual producer of this high grade crude oil, its holdings extending through the Pennsylvania grade field from the Bradford Field on the north to that of West Virginia on the south. In addition to its own production, the South Penn Oil Co. deals extensively in crude oil not produced from its own wells, supplying oil refineries scattered throughout the Pennsylvania grade region, as well as serving those on the Atlantic Seaboard.

Safeguarding the Business

The large and growing business of the Pennzoil company, in the judgment of its management, necessitated that company's taking such a step as would effectually safeguard its business by assuring an abundant supply of Pennsylvania crude oil, and thereby guarantee its trade a continued and uniform product. The South Penn Oil Co., on the other hand, being virtually interested in the future of the Pennsylvania industry, recognizing the success with which the Pennzoil company has marketed Pennsylvania products, has welcomed the opportunity of joining with it in extending the business of the Pennzoil company, so well established throughout the country. The Pennzoil company is favorably known from coast to coast, not only for its fine automobile lubricants, which are on sale all over the country, but also for its industrial and railroad oils.

The Pennzoil company is a consolidation of companies formed and existing since 1886, its headquarters being at Oil City, where it owns two modern, well-equipped refineries, running exclusively on 100 per cent Pennsylvania grade crude oil, and through its marketing division and subsidiary companies in New York State, California and Florida, disposes of its products under its own brand.

The officers of the company are as follows: C. L. Suhr, president and general manager; Louis Walz, vice president; D. J. Cavanaugh, secretary; M. A. Brewster, treasurer; and R. A. Browne, director of sales.

South Penn View

L. W. Young, Jr., president of the South Penn Oil Co., in speaking of the deal while he was in Oil City yeterday, expressed satisfaction that it had been consummated, saying he recognized that Pennsylvania grade crude oil being singularly adapted to the manufacture of the highest quality of lubricating oil, should be marketed for such a purpose to which it is adapted and for which nature has so strongly favored it. The Pennzoil company's plants and facilities, he thought, were ideal for the purpose and he heartily subscribed to that company's manufacturing and marketing policy, which he hoped to see enlarged as the motoring public more and more recognizes the quality of this oil.

Mr. Young further stated that he felt this new venture on the part of the South Penn Oil Co. should cause no uneasiness on the part of refiners who have been depending upon them for their supply of crude oil as it was "not the intention of the company to disturb any of its present relations, but rather hope that this move would add greater stability to the Pennsylvania oil business as a whole."

President Suhr's Statement

C. L. Suhr, president of the Pennzoil company in a statement said that the deal did not mean any change in the policy of the company of which he is the head. He recalled the great changes in the refining business since his father, Henry Suhr, Louis Walz and others about 40 years ago organized the original Penn Refining Co., one of the units which later was merged with others to form the present Pennzoil company. In those early days, he said, kerosene and steam refined cylinder stocks were the staple and profitable products in the refining business, gasoline being a byproduct and usually a drug on the market. The advent of the gas engine and automobile motor, however, he said, altered the refining business completely. "This change in refining practice was more pronounced in Pennsylvania than in any other refining center of the country for it soon developed that with proper refining the products derived from Pennsylvania crude oil were better adapted to the lubrication of internal combustion engines. These lubricating oils were also found superior in such industries where it is advisable or necessary to use oils of very high test. The Pennzoil company, recognizing this, has shaped its policy accordingly and is working to the end that its entire output is diverted to those used in the automobile and industrial world where Pennsylvania products are so singularly fitted."

Mr. Suhr stated he had always hoped that sooner or later his company would be in a position where it would be assured of an adequate supply of crude oil so the business could be built with every confidence in its permanency. He said that wish has now been fulfilled and Pennzoil will be synonymous with the continued prosperity of the Pennsylvania oil country.

Pennzoil Operations

The Pennzoil company in addition to the large refineries at Oil City and Rouseville and its distributing stations in Pennsylvania and Ohio owns the majority interest of the Pennzoil Co. of California and of the Pennzoil Co. of New York, both of which are good sized concerns with a large distribution of Pennzoil products.

The California company operates on the Pacific Coast and as far east as Denver, Colo., in the distribution of automobile and industrial lubricants. A department of this company also handles the Pennzoil railway business. The New York company, in addition to covering its own State, extends its business into Canada and the New England States. The officers of the Pennzoil Co. of California are: L. H. Johnson, president, Los Angeles, Calif.; N. M. Day, vice president and general manager, Los Angeles; P. G. Maitland, secretary and treasurer, Los Angeles. The officers of the Pennzoil Co. of New York are: C. L. Suhr, president, Oil City, Pa.; A. S. Matthews, vice president and general manager, Buffalo, N. Y.; D. J. Cavanaugh, treasurer, Oil City; Pa.; R. A. Browne, treasurer, Oil City, Pa.; C. B. Kinne, general sales manager, Buffalo, N. Y.; and W. R. Birkmayr, assistant treasurer, Buffalo, N. Y.

A. O. M. A. CONVENTION

CHICAGO, July 31.—The American Oil Mens Association announces it will hold its fall convention on November 16, 17 and 18, next. The arrangement as to the hotel has not been completely settled but the desire of those members who have been in touch with the situation is that it be held at the Congress Hotel. James A. Gilmore, the newly appointed secretary, will be at the headquarters from August 1, although until a successor has been secured for him at Grand Rapids, Mich., he is to spend some time at that office.

NEW STANDARD OIL PRODUCT

CHICAGO, July 29.—The Standard Oil Co. of Indiana has brought out a new product which it has named "Stanisol." This is a product for the use of dry cleaners and it is claimed it is better than cleaners' naphtha in various ways. "Stanisol" is a light, mobile, colorless, petroleum distillate. It is far safer from the point of fire hazard than light naphthas and danger of fire is claimed to be practically eliminated if ordinary precautions are taken. It has a boiling point range of from 300 degrees to 410 degrees and a flash point of 100 degrees. It has been specially treated to facilitate the deodorization of fabrics. The loss from evaporation is greatly reduced making it more economical than light naphthas and it is a better solvent. It is nontoxic, free from acids, low in sulphur and aromatic hydrocarbons, and is reclaimable by any of the processes now in use.

NO STRIKE IN CHICAGO

CHICAGO, July 31.—At the final conference of the representatives of the station owners and of the drivers and attendants union, an agreement was reached whereby the danger of any strike is averted for one year. The men agreed to renew the scale in effect for the past two years for another year. The drivers were granted a week's vacation with pay but this time is to be deducted from payments for overtime so that the men practically agree to make up the vacation time by overtime. The present scale is $140 per month to attendants and $175 per month to truck drivers.

MARKETERS MAY ORGANIZE

CHICAGO, July 31.—At the regular meeting of the local tank car marketers, there was some discussion of a proposal to form a permanent organization. Action was postponed until the next meeting on August 10. The association has been purely informal and its discussions restricted to matters of credits to this time and some feel that the efficiency of the organization will not be increased by making it more formal or taking in other matter than credits.

BUY EAST WACO PLANT

WACO, Tex., Aug 2.—J. Bruce Duncan and associates of Waco have purchased at a trustees' sale the old Arrow Refining Co. plant at East Waco. Their bid was $15,800. The plant originally built by the Arrow Refining Co. and later sold to Ryan & Fisher, a production Co., is said to have represented an investment of $250,000. It will be dismantled after being shut down for several years.

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Brief Items for Plant Operators

CALIFORNIA DISCUSSES ELIMINATING ODORS

Under the auspices of the Chamber of Mines and Oil, a large number of California refiners are attempting to solve the problem of odor elimination in the operation of refineries in the Long Beach district. Edward Huggins, secretary of the Chamber of Mines and Oil, is chairman of the refinery committee.

Due to the nature of the crude, the elimination of odors has always been a special problem for the California refiners. Some of the plants are located near exclusive residential sections and objections are heard from the owners of these properties.

The committee is making the first thorough effort in the history of the industry to amass and correlate all the information relative to the elimination of refinery odors which has been acquired in plants all over the country. Letters have been sent to 75 of the largest refineries asking for information on methods of abatement or odors which have been used in other localities. The aid of the Federal Bureau of Mines and American Petroleum Institute has also been enlisted in the study of the subject.

The committee includes in its personnel, besides Mr. Higgins as chairman: W. Cameron, Shell company; David E. Day, Richfield; S. J. Dickey, General Petroleum; H. B. Haney, Associated; R. E. Haylett, Union; W. D. Rial, Pan American, and J. R. Scanlin, Calpet. J. A. Campbell of the Lomita Gasoline Co. of Long Beach, has also been asked to join the committee.

BOSSIER CITY PLANT IS NOW IN OPERATION

SHREVEPORT, La., July 31.—Record time was made at the Louisiana Oil & Refining Corp.'s Bossier City refinery when an improvement compaign costing $1,000,000 was started there about the middle of last February. The program was practically completed July 9 and all of the new units are now in operation.

The improvement program called for the installation of two new Carlton-Ellis tube and tank cracking units bringing the refinery's total cracking units to seven. Additional rerun capacity was made and a complete remodeling of the water cooling system was part of the program.

A new power house was built and the boiler capacity was enlarged. The remainder of the improvements went into additional tankage and minor improvements about the refinery.

The project was completed under the direction of C. A. Sears, manager of the Louisiana's refining department. Formerly the plant had a capacity of 10,000 bbls. daily but with the addition of new units the capacity has been doubled.

MAY USE KEROSENE ON COTTON "HOPPERS"

SHREVEPORT, La., Aug. 2.—Kerosene has been put to good use by many Louisiana cotton growers in destroying the cotton flea, or "hopper," which has been causing a heavy loss this year. One of the users of kerosene is B. R. Hendricks, former mayor of Cedar Grove, who has several hundred acres of cotton on his 800-acre plantation in Red River Parish.

Mr. Hendricks maintains that kerosene is the most effective remedy as yet devised for the destruction of the cotton pest. His opinion is backed up by extensive tests which he has made with kerosene as well as with many other preparations.

COLORADO GASOLINE PLANT

The Mountain State Oil Corp. is starting the building of a gasoline plant near Barela, in Las Animas County, about 25 miles from Trinidad, in the southern part of Colorado. The oil company drilled a wildcat well on the Malonada ranch and found some wet gas. The gasoline plant is to extract this gasoline content from the gas and the flow is estimated at 1,000,000 feet daily. Other wells are to be started shortly to swell the gas production. The plant is to cost $75,000 and be ready for operation by September.

NEW REFINERY STARTS AT NEWPORT BEACH

NEWPORT BEACH, Calif., Aug. 2.—Operations have been started at the refinery just completed just west of Newport Beach by F. H. Dunham, R. A. Dunham and Roy Thomas of San Fernando. The plant will specialize in asphaltic roofing material and spray distillate.

The refinery cost $40,000 and includes cracking stills with a daily capacity of 500 bbls. The crude, which comes from five wells owned by the South Basin Oil Co., has a high asphaltum content.

TEST RUN AT EAST CHICAGO

A test run was made July 30 at the East Chicago refinery of the Bartles Maguire Oil Co. The refinery, formerly owned by the Consolidated Oil Refining Co., has been completely remodeled by the present owners since the purchase early in the year. The improvements include the installation of a Jenkins still. It is expected regular operation at the plant will start during the month.

BOOTLEGGING OF OIL IS MUCH EXAGGERATED

NEW YORK, July 31.—A spokesman for The Texas Company, takes issue with the statements of the American Fair Trade League that the sale of bootleg lubricants to automobilists costs "our 20,000,000 car owners nearly $1,000,000,000 a year."

"The Fair Trade League estimates," says The Texas Company's house organ, The Texaco Star, "that this dishonest substitution is practiced in half of the sales of lubricating oil in New York territory, and it is its belief from the evidence collected that a similar condition exists throughout the country.

"That a very bad condition has been uncovered, one calling for drastic handling by the petroleum industry, is sufficiently evident; but the 'publicity' agents of the Fair Trade League have, also evidently, fallen into the darling vice of some of their ilk in using sensational exaggeration and the 'screaming voice.' Why use the word 'bootleg'? Not all bootleg liquor is a fraudulent substitute for a genuine article, and the purchaser is fully aware of the illegality of the transaction.

Extravagant Figures

"Their calculation of $1,000,000,000 'loss' per annum on half of the motor oil purchased for the 20,000,000 cars is immensely exaggerated. Even if the inferior oils which were fraudulently sold for known standard brands could be regarded as a total loss, to get $1,000,000,000 it must have been assumed that the average cost per car for lubricants was $100 a year, if half of the 20,000,000 were cheated. But in this calculation the league's publicity man ignores the service stations owned and operated by the great companies marketing through their own stations their trade-marked brands. What proportion such service stations bear to non-company stations this editor does not know; but plainly this one consideration puts the '$1,000,000,000 a year' in the class of sensational publicity screams.

"Almost coincident with the announcement of the Fair Trade League comes a report of the National Better Business Bureau of the Associated Advertising Clubs of the World giving the results of an investigation, begun more than a year ago at the urging of a number of responsible oil companies, into many complaints about the substitution of inferior lubricants for standard brands by some garages and filling stations not operated by the manufacturing oil companies.

Serious Situation

"The report of the Better Business Bureau does not confirm the precise statements published by the Fair Trade League, but they are abundantly in agreement to call for the most serious attention and lively action.

"The Better Business Bureau investigated suspected garages and filling stations, buying motor oil and analyzing it and finding whether it was the oil asked for or inferior. About 50 per cent of those dealers were found to be dispensing fraudulent substitutes.

"This is bad enough, in all conscience; but it is a far cry from the accusation that there is dishonest substitution in 50 per cent of all sales of lubricating oil to the motoring public. The Better Business Bureau was careful to say that the result of its investigation of non-oil-company stations and garages did not imply a blanket indictment of all such stations and garages. On the contrary, the majority, they say, are doing business honestly."

VENTURA PORTABLE PLANT

LOS ANGELES, Cal., Aug. 2.—A portable gasoline plant has been installed in the Ventura Field by the Bolsa Chica Oil Co. The company has just completed its first well in the field and will use the gas at the gasoline plant. The well is flowing approximately 1,000,000 feet daily having a gasoline content of about one and a half gallons per 1,000 feet.

AMONG THE TECHNICAL MEN

W. T. Christman, superintendent of the Shreveport Producing & Refining Corporation, refinery at Shreveport, La., is one of the old school refinery men and is a native of Ohio where he was born in 1881. Before entering into his life's occupation he studied mechanical engineering.

W. T. Christman

Twenty years ago his refining experience started with his employment by the Sun Oil Company, in its Toledo, Ohio, refinery. While with the Sun refinery he received his early training in the experimental department.

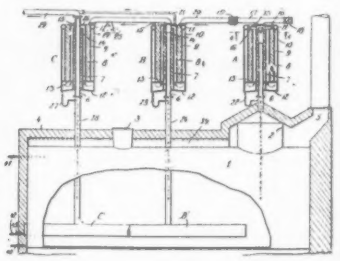
Until six years ago, he at various times, had been connected with half a dozen eastern refineries. In that time he gained practical experience in every phase of refining and was fortunate in being attached to the experimental department of each of those refineries. He has seen gasoline rise, from a product that formerly was waste to the prize of petroleum products.

In 1920, he came south and finished construction work on the Shreveport Producing & Refining Corporation's plant started in 1919 by the Watkins Engineering Company. The refinery, a 3,500-barrel skimming plant, was completed in July, 1920. Since, cracking units have been installed and increased the daily capacity to 5,000 barrels.

Under Mr. Christman's supervision a new process of his design, is being constructed at the refinery to operate in conjunction with rerun stills.

Recent Patents

1,584,730. Method and Apparatus for Distillation. William Edgar Chenot, Belleville, Ill. Filed April 22, 1924. Serial No. 708,150. 10 Claims. (Cl. 196—72.)



1. An improved method of distilling hydrocarbon oils, which comprises initially distilling the original oil, dephlegmating the vapors, redistilling the condensate obtained by this dephlegmation by heat interchange with the original oil undergoing distillation but without direct contact therewith, and collecting in a common receiver the uncondensed vapors from the dephlegmation and the vapors of the redistilled condensate obtained from the redistillation without contacting them with the oil being distilled, the said condensate, or the vapors undergoing dephlegmation.

Oil Securities Strong and Active

Producing Companies, Such As the Prairie, Ohio Oil and Humble Oil, Were Features at the Close of the Week

By N. O. Fanning

New York Bureau, The Oil and Gas Journal, Room 543, 30 Church St., New York

NEW YORK, Aug. 2.—Oil securities were strong and active at the close of the past week with producing companies such as the Prairie Oil, Ohio Oil and Humble Oil featuring. International Petroleum was under accumulation around 34.

The Sun Oil Co. reports for the six month ended June 30, 1926, net income of $1,749,619 after interest, depreciation, depletion and estimated Federal taxes, equivalent to $1.58 a share earned on 1,100,555 shares of no par common stock. This compares with $2,529,001, or $2.29 a share, on the present share basis, in the first six months of 1925.

The consolidated income account for the six months ended June 30, 1926, compares as follows:

	1926	1925
Total income	$3,361,917	$4,067,819
Interest	279,022	295,127
Depr. and depletion	1,257,276	943,691
Federal tax (est.)	76,000	200,000
Net income	$1,749,619	$2,529,001
Dividends	550,085	303,236
Surplus	$1,199,531	$2,225,765

General Petroleum

Stockholders of the General Petroleum Corp. are rapidly surrendering their certificates to the company for cancellation, such surrender being necessary before they can obtain the two shares of Standard Oil Co. of New York stock, which will be distributed for each share of General Petroleum surrendered.

The arrangement for absorption of General Petroleum Corp. by the New York Standard was in the form of a direct sale of assets of the former to Standard Oil. The General Petroleum Corp. is now in process of dissolution and no further dividends will be paid on its stock as all assets have been transferred.

The quarterly dividend that will be declared on Standard Oil of New York stock early in August will be paid only to stockholders of record in the New York company. Such dividends can only be obtained by present holders of General Petroleum who promptly surrender their shares and receive New York shares. General Petroleum shareholders who fail to do this before the Standard Oil Co. of New York books are closed will lose the quarterly dividend to which they are otherwise entitled.

General Petroleum shares may be surrendered either to the Guaranty Trust Co. in New York or the Bank of California, National Association, in San Francisco. These institutions are receiving the surrendered General Petroleum shares and delivering the stock of Standard Oil Co. of New York, which is being distributed.

Independent Oil & Gas

The Independent Oil & Gas Co. and subsidiaries report for the six months ended June 30, 1926, net income of $929,429 after depreciation, depletion, interest, amortization and Federal taxes, equivalent to $1.86 a share earned on the outstanding 500,000 shares of no par value stock. The detailed statement follows:

Gross earnings	$3,464,737
Expenses, taxes, dry holes, etc.	1,584,677
Operating profit	$1,880,060
Interest, amort., etc.	124,537
Res. for depr. and depl.	826,094
Net income	$ 929,429

Net income for the second quarter of the period was equivalent to $1.04 a share on the stock, as compared with 82 cents a share earned in the first quarter.

Phillips Petroleum

Phillips Petroleum Co. reports consolidated profit for the first half of 1926 of $14,201,016 before depreciation and depletion, against $10,456,494 in the first half of the previous year. Gross earnings for the first six months of 1926 amounted to $22,650,260, against $17,069,600 in the same period of 1925.

Shaffer Oil & Refining

The Shaffer Oil & Refining Co. and subsidiaries report for the 12 months ended March 31, 1926, net income of $2,031,978 after taxes, interest, depreciation, depletion, etc., against $613,705 in the preceding 12 months. The consolidated income account for the 12 months ended March 31, 1926, compares as follows:

	1926	1925
Gross earnings	$17,094,559	$11,701,993
Net income*	2,031,978	613,705

*After taxes, interest, depreciation, depletion, etc.

The consolidated balance sheet of the Shaffer Oil & Refining Co. as of March 31, 1926, after giving effect to new financing, follows:

Assets

Plant, etc.	$33,075,636
Unamortized disc. and expenses	2,203,908
Invest. in affil. cos.	709,092
Other investments	298,260
Prepaid accts. and other deferred charges	110,381
Cash	787,233
Accts. receivable	1,978,791
Inventories	4,849,102
Total	$44,012,403

Liabilities

Prfd. stock	$14,000,000
First mort. conv. bonds	5,142,200
Two-year notes	7,500,000
Subsid. bonds and notes	1,694,245
Notes payable	1,257,255
Accounts payable	2,209,736
Accrued int. and taxes	217,595
Res. for depr. and depl.	3,291,354
Spl. reserve	5,040,000
Common stock and surplus	*3,660,018
Total	$44,012,403

*Represented by 160,000 shares of no par value

Texas Pacific C. & O.

The income account of the Texas Pacific Coal & Oil Co. for the quarter ended June 30, 1926, shows gross earnings of $2,084,027, and profit before depreciation and depletion, but after expenses and deductions, of $1,134,124, compared with $588,253 in the same quarter of 1925.

Tide Water Associated

The syndicate formed by Blair & Co. and the Chase Securities Co., which underwrote the $240,000,000 merger of the Tide Water Oil Co. and Associated Oil Co. last March will expire August 4. It is said in some quarters that a renewal of the syndicate may be obtained for the purpose of offering 1,800,000 shares of no par value common stock to the public for subscription, if conditions warrant.

Mid-Continent Petroleum

Net income of the Mid-Continent Petroleum Corp. for the June quarter was $3,962,624, after interest, but before depreciation, depletion and Federal taxes, which is equal, after preferred dividends, to $2.84 a share on 1,357,414 shares of common stock outstanding. This compares with $3,651,844, or $2.60 a share, in the same quarter of 1925. For the first half of this year earnings were $6,816,884, before reserves or $4.85 a share on the common, against $7,347,734, or $5.24 a share, in the same period in 1925.

Executives said that while the net income for the first half of 1926 is apparently less than that for the period last year, this is due to inventory adjustment in the first quarter of 1925. The net operating profit for the first half of 1926 is $534,982 in excess of that for the first half of 1925.

Rydal Oil Corp.

At the annual stockholders' meeting of the Rydal Oil Corp., at Philadelphia, the following were elected directors: J. H. Sheble, Jr., Philadelphia, Pa.; Ernest B. Rubsamen, Jr., San Antonio, Tex.; Herbert L. Clark, Philadelphia, Pa.; Gilbert Mather, Philadelphia, Pa.; Ralph R. Lewis, San Antonio, Tex.; Kirby Thomas, New York, N. Y.; Edgar B. Howard, Philadelphia, Pa.; Charles E. Richardson, New York, N. Y.; George W. Elkins, Philadelphia, Pa. The directors subsequently elected the following officers: J. H. Sheble, Jr., president, Philadelphia, Pa.; Ralph R. Lewis, vice president, San Antonio, Tex.; Ernest B. Rubsamen, Jr., secretary-treasurer, San Antonio, Tex. The company is operating principally in the southwest Texas fields. It has a capital of 200,000 shares, no par value, of which 165,000 are issued. A recent offering of the company's shares at $4.25 was made by New York brokers.

Amerada Corporation

The Amerada corporation reports for the first six months a net profit of $2,201,859, equal to $3 a share on 713,300 shares of no par stock. For the second quarter the net profit was $1,390,231, or $1.94 a share, against $811,627, or $1.14 a share in the corresponding quarter of last year.

NEW YORK STOCK EXCHANGE—LIST OF ACTIVE STOCKS

Stocks—	Par	Clos. Quot. Aug. 2	Clos. Quot. July 26	1926 High	1926 Low	1925 High	1925 Low	1924 High	1924 Low
Amerada Corp.	..	30¼	30	31	21⅜	..	..	..	..
Atlantic Ref., com.	100	114⅞	108	128⅝	97	117½	95½	140½	78½
Barnsdall "A"	25	25⅝	25½	33½	23½	33½	18⅝	29½	14
California Pet., com.	25	33⅛	32⅝	38⅛	30⅝	34⅝	23⅞	29	19⅞
Houston Oil	100	60¾	*58	72	50¼	85	59	82½	61
Independent Oil & Gas	..	26⅝	23⅛	34	20¼	41⅝	13½	16⅛	5⅜
Indian Refining	10	10⅞	11	13¾	9½	14¼	5½	7	3⅝
Lago Oil & Trans.	..	22⅞	22	24½	19¼	..	..	..	..
Louisiana Oil	10	17	16¼	19⅝	12	23⅜	13⅜	..	..
Maracaibo	..	22⅜	23½	28⅞	20⅜	35½	20⅜	37¼	25⅜
Marland	..	59⅜	56½	62⅝	49¼	60⅛	32⅝	42	29
Mexican Seaboard	..	12⅝	13	13	6	22½	9	25⅜	14⅛
Mid-Continent Pet.	..	30½	28⅞	41	25⅝	38	25⅜	40¼	22⅝
National Supply	50	64⅜	63⅜	65⅞	55½	71	54⅜	72½	54
Oil Well Supply	25	35	34½	36	30½	38	33⅜	..	..
Pan. Amer., B.	50	69½	66⅞	76½	56¼	83⅞	59½	65	44½
Pan. Amer., Western B	..	38	37⅝	46	34	49⅜	37¼	..	..
Phillips Pet.	..	48⅜	46⅛	48⅝	42½	47⅛	36¼	52¼	28½
Producers & Refiners	50	11⅛	11¼	17½	11	32⅝	12½	32½	29⅝
Pure Oil, com.	..	27⅝	26⅝	31	26	33⅝	25¼	30¼	20
Royal Dutch, N. Y., sh	13.40	49⅝	*53	57⅝	50	57⅜	48½	59½	40⅝
Shell Transport	10	*43	40½	48⅝	42	49	39⅜	42	33
Shell Union, com.	..	28⅝	28	28½	24	28⅜	21⅝	22½	15⅜
Simms Pet.	10	18¾	17	28⅝	20⅜	28½	17⅝	24	10⅝
Sinclair Consolidated, com.	..	21¼	20⅛	24⅞	19⅝	24⅝	17	17½	15
Skelly Oil	25	34⅛	32	36½	27	32½	21⅝	29	17½
Standard of California	25	60⅞	58¼	62¼	54	67¼	51½	68⅛	55½
Standard of New Jersey, com.	25	45¼	43⅝	46⅝	40¼	47½	38⅝	41⅛	33
Sun Oil Co.	..	*31	31	41⅝	31½	43⅝	38¼	..	..
The Texas Company	25	54½	52¼	55¼	49	55	42⅝	46⅝	37⅜
Texas Pacific Coal & Oil	10	14⅝	13⅜	19½	12½	23⅜	11	15¼	8¼
Tide Water Oil	25	*31	*31	..	..	..	..	..	..
Transcontinental	..	5¼	5⅜	5⅝	3	5⅞	3⅛	6¼	3⅜
Union Oil of California	25	53⅝	53½	56	37¼	43⅝	33⅛	39	35⅛
Union Tank, com.	100	*92	*92	94⅞	84½	‡134	118	132⅞	94
White Eagle Oil & Refining	..	26⅝	26⅝	29⅝	26¼	31⅝	25⅝	29⅝	23¼
Standard Oils									
Angio-American Oil	£1	*17⅛	*17⅜	19⅜	16⅛	26⅜	17½	18⅜	14⅜
Borne Scrymser	100	*280	*265	248	226	240	205	164	150
Buckeye Pipe Line	50	47⅝	50	59½	52	72	63½	85½	51
Chesebrough Mfg. Co.	25	*73	*73	72⅜	63	74	48¼	62⅜	29¼
Continental	10	21⅜	20¼	25⅞	19¼	31⅛	21⅞	..	..
Crescent Pipe Line	25	*16	*16⅛	16	14½	17½	10	20	11⅝
Cumberland Pipe Line	100	111	*110	137	108	156	128	148	108
Eureka Pipe Line	100	53	*52½	63⅜	47⅜	96	61¼	105	74
Galena Signal, com.	100	*18	18½	32½	17¼	68½	23½	69⅜	62½
Humble Oil & Refining Co.	25	63¼	59	68⅛	52	99	42½	43⅜	36
Illinois Pipe Line	100	*134	134½	144	131	154½	124	161	123
Imperial Oil, Ltd.	..	35⅝	35¼	38⅜	32½	39¼	27¼	119	99
Indiana Pipe Line	50	*61	*65	68	58	84	57½	100	66
International Pet. Co.	10	34	32⅜	35¼	28⅜	35⅜	22⅛	34⅜	16⅞
National Transit Co.	12.50	15	14⅞	20⅜	15⅜	25½	16½	25⅞	20⅝
New York Transit	100	43	46½	50	39	79	50	97	54½
Northern Pipe Line	100	70	74¼	80½	70⅝	88	67½	107½	72
Ohio Oil Co.	25	59	56⅝	67⅝	58	75¼	60	79½	53
Penn.-Mex. Fuel	25	*22	*20½	23	15	44	19	35⅝	27
Prairie Oil & Gas	25	52¼	51½	60¼	48	65½	45⅞	269	193
Prairie Pipe Line	100	*126	*126	127	122½	129¾	105	111	100
Solar Refining Co.	100	189	189	212	184½	259	200	240	170
South Penn Oil	25	39⅜	39½	50	35	‡197	139	176	117
Southwest Pa. Line	100	*50½	*50½	54½	57½	84	50	89	68
Southern Pipe Line	50	*25	†25	74½	61½	103	63	100	80½
Standard of Indiana	25	64½	64¼	70½	61⅝	70⅜	59½	69⅝	54¼
Standard of Kansas	25	22¼	21⅜	36½	25	46	30¼	50½	32⅜
Standard of Kentucky	25	124	123	134⅜	108	137	114⅜	121⅞	101
Standard of Nebraska	100	47	44½	†51½	†42	270	231	262	198
Standard of New York	25	33⅞	32¼	47¼	31⅝	48⅝	40	48	37⅜
Standard of Ohio, com.	100	295	*296	362	292½	369	338	337½	277
Swan & Finch, com.	25	*17½	*17½	21	18	27	12	28	20
Vacuum Oil	25	103¼	*102	109¾	94¼	109½	80½	83½	50½
Miscellaneous									
Gulf Oil Corp. of Pa.	25	86⅛	84¼	93⅜	82½	98¼	63½	67⅜	56
Tide Water Associated	..	24⅛	24½	27	21	..	..	..	..

*Bid, no sales. ‡Old stocks. †New stocks.

The Oil and Gas Journal's weekly average price of 20 representative petroleum stocks listed on the New York Stock Exchange was as follows:

Aug. 2	59.76	June 28	60.17	May 24	58.84
July 26	58.44	June 21	59.91	May 17	57.63
July 19	59.45	June 14	59.40	May 10	57.08
July 12	59.43	June 7	58.92	May 3	57.23
July 2	60.38	May 28	59.81	April 26	57.39

PENNSYLVANIA MARKET REPORTS IMPROVEMENT

OIL CITY, Pa., July 31.—The position of the Pennsylvania refined market improved some during the past week.

Gasoline is holding up well in both price and demand. The price is a little better than it was two weeks ago but unchanged as compared with the past week. This product is now in good demand and there is a fine movement of it.

Kerosene seems to be the market feature at present. The demand is the best it has been in weeks due to the approach of the threshing season. Local refiners and marketers look for a still stronger market with better prices during the next six weeks. During the spring months the refiners in this section were cleaned out on kerosene and during the six weeks that have elapsed have not been able to pile up much storage.

Fuel oil is only holding its own. The decline in this product, however, has stopped and there is fair buying. Neutrals are in good demand. Cylinder stocks continue weak. Wax is a trifle weaker than it has been.

REFINERY AND CRUDE PRICES

Quotations on Principal Refined Products and Crude Petroleum Markets in All the American Oil Fields

GASOLINE AND NAPHTHA

	Aug. 3		JuJly 27		July 20	
OKLAHOMA (Group 3)—						
50-52 450 end point	.11		.11		.10¾	.11
56-58 450 end point	.11	.11⅛	.11⅛	.11¼	.11	.11⅛
58-60 450 end point	.11¼	.11¼	.11¼	.11⅜	.11⅛	.11¼
58-60 437 end point (U. S. Motor)	.11⅜	.11½	.11⅜	.11½	.11¼	.11½
60-62 400 end point	.11⅜	.11⅞	.11⅜	.12	.11¾	.12
64-66 375 end point	.12¼	.12¼	.12	.12¼	.12	.12¼
68-70 360 end point	.12⅜	.12½	.12½		.12½	.12¾
KANSAS—						
58-60 437 end point (U. S. Motor)	.11¾	.11⅞	.11¾	.11⅞	.11½	.11¾
NORTH TEXAS—						
48-50 450 end point (Naphtha)	.10¾	.11	.10⅞	.11	.10⅝	.10¾
50-52 450 end point (Naphtha)	.10¾	.11	.10⅞	.11	.10¾	.10⅞
56-58 450 end point	.11	.11¼	.11	.11⅛	.10⅞	.11
58-60 437 end point (U. S. Motor)	.11¼		.11¼	.11⅜	.11¼	.11⅜
60-62 400 end point	.11⅝	.11¾	.11⅝	.11¾	.11¾	
64-66 390 end point	.11¾	.11⅞	.11¾	.11⅞	.11¾	.11⅞
64-66 375 end point	.12		.12		.12	.12⅛
68-70 360 end point	.12⅜	.12½	.12⅜	.12½	.12⅜	.12½
NORTH LOUISANA—						
58-60 437 end point (U. S. Motor)	.11½	.11¾	.11½	.11¾	.11½	.11¾
64-66 375 end point	.12¼	.12½	.12¼	.12½	.12¼	.12½
ARKANSAS—						
58-60 437 end point (U. S. Motor)	.11⅜	.11¾	.11¾		.11½	.11¾
64-66 375 end point	.12¼	.12½	.12¼	.12½	.12¼	.12½
ROCKY MOUNTAIN STATES—						
*58-60 437 end point (U. S. Motor)	.14½	.14⅝	.14⅜	.14½	.14¼	.14½
PENNSYLVANIA—						
52 Naphtha	.12½	.12¾	.12½	.12¾	.12½	.12¾
54 Naphtha	.12¾	.13	.12¾	.13	.12¾	.13
56 Naphtha	.13	.13¼	.13	.13¼	.13	.13¼
58 Naphtha	.13¼	.13½	.13¼	.13½	.13¼	.13½
60 Gasoline	.13¾	.14	.13¾	.14	.13¾	.14
62 Gasoline	.14½	.14¾	.14½	.14¾	.14½	.14¾
64 Gasoline	.14¾	.15	.14¾	.15	.14¾	.15
66 Gasoline	.15¾	.16	.15¾	.16	.15¾	.16
68-70 Gasoline	.18¼	.18½	.18¼	.18½	.18¼	.18½
CALIFORNIA—						
54-58 437 end point (U. S. Motor) domestic	.12	.12½	.12	.12¼	.12	.12¼
CHICAGO DISTRICT (Based on Group 3)—						
50-52 450 end point (Naphtha)	.11		.10¾	.11	.10¾	
56-58 450 end point	.11	.11¼	.11⅛	.11¼	.10⅞	.11
58-60 437 end point (U. S. Motor)	.11½	.11¾	.11⅜	.11½	.11¼	.11½
60-62 400 end point	.11¾	.12⅛	.11¾	.12	.12	
64-66 375 end point	.12¼		.12¼	.12¼	.12¼	.12⅜
68-70 360 end point	.12½	.12¾	.12⅜		.12½	.12⅝

*Colorado points.

NATURAL GASOLINE

	Aug. 3		July 27		July 20	
OKLAHOMA (Group 3)—						
Grade AA, 80-87.9, 375 e.p., rec. 90%	.08½		.08½		.08⅜	.08½
Grade A, 72-79.9, 375 e.p., rec. 90%	.08½	.08⅝	.08½	.08⅝	.08⅜	.08½
Grade BB, 84-92, 375 e.p., rec. 85%	.08¼	.08½	.08¼	.08⅜	.08¼	
Grade B, 76-83.9, 375 e.p., rec. 85%	.08¼	.08⅛	.08¼	.08⅜	.08¼	
Grade C, 80-90, 375 e.p., rec. 78%	.08	.08¼	.08	.08¼	.08	
NORTH TEXAS—						
Grade AA, 80-87.9, 375 e.p., rec 90%	.08½		.08½		.08¼	.08½
Grade A, 72-79.9, 375 e.p., rec. 90%	.08½	.08⅝	.08½		.08¼	.08½
Grade BB, 84-92, 375 e.p., rec. 85%	.08¼		.08¼		.08¼	
Grade B, 76-83.9, 375 e.p., rec. 85%	.08¼		.08¼		.08¼	
Grade C, 80-90, 375 e.p., rec. 78%	.08	.08¼	.08	.08¼	.08	
NORTH LOUISIANA—						
Grade A, 72-79.9, 375 e.p., rec. 90%	.08⅞	.09⅛	.08⅝	.09	.08⅝	.08⅞
Grade B, 76-83.9, 375 e.p., rec. 85%	.08½	.08⅞	.08½	.08⅞	.08⅜	.08⅝
Grade C, 80-90, 375 e.p., rec. 78%	.08½	.08¾	.08½	.08¾	.08⅜	.08⅝
CALIFORNIA—						
75-85, 375-390 end point	.15½	.16	.15½	.16	.15½	.16
CHICAGO DISTRICT (Based on Group 3)—						
Grade AA, 80-87.9, 375 e.p., rec. 90%	.08½	.08⅝	.08¼	.08½	.08¼	.08½
Grade A, 72-79.9, 375 e.p., rec. 90%	.08½	.08⅝	.08¼	.08½	.08¼	.08½
Grade BB, 84-92, 375 e.p., rec. 85%	.08¼	.08⅜	.08	.08¼	.08⅛	.08¼
Grade B, 76-83.9, 375 e.p., rec. 85%	.08¼	.08⅜	.08	.08¼	.08⅛	.08¼
Grade C, 80-90, 375 e.p., rec. 78%	.08	.08⅛	.08		.08	

MOTOR NATURAL GASOLINE (BLENDS)

	Aug. 3		July 27		July 20	
OKLAHOMA (Group 3)—						
60-62 450 end point	.10½	.10¾	.10½	.10¾	.10½	.10¾
64-66 437 end point	.10¾		.10¾		.10¾	.11
NORTH TEXAS—						
64-66 437 end point	.10⅝	.10¾	.10⅝	.10¾	.10⅝	.10¾
PENNSYLVANIA—						
*60-62	.13½	.13¾	.13½	.13¾	.13½	.13¾
*64-66	.13¾	.14	.13¾	.14	.13¾	.14
*66-68	.13¾	.14	.13¾	.14	.13¾	.14
*68-70	.14	.14¼	.14	.14¼	.14	.14¼
CHICAGO DISTRICT (Based on Group 3)—						
60-62 450 end point	.10¾	.11	.10½		.10½	.10¾
64-66 437 end point	.11	.11¼	.10½	.10¾	.10¾	.11

*At Sistersville, W. Va.

BURNING OIL

	Aug. 3		July 27		July 20	
KANSAS—						
41-43 water white Kerosene	.08½	.08⅝	.08⅜	.08⅝	.07	.07¼
OKLAHOMA (Group 3)—						
41-43 water white Kerosene	.08		.08	.08¼	.08¼	.07
42-44 water white Kerosene	.08¾	.08⅞	.08½	.08¾	.07¼	
NORTH LOUISIANA—						
41-43 prime white Kerosene	.08¼	.08½	.08¼	.08½	.07	.07¼
ROCKY MOUNTAIN STATES—						
*40-41 water white Kerosene	.11¼	.11½	.11	.11⅛	.09¾	.10
NORTH TEXAS—						
41-43 water white Kerosene	.07¾	.08	.07⅞	.08	.06⅝	.06¾
ARKANSAS—						
41-43 water white Kerosene	.08¼	.08½	.08	.08¼	.07	.07¼
PENNSYLVANIA—						
43 Kerosene prime white	.09¼	.09½	.08½	.08¾	.08½	.08¾
45 Kerosene water white	.09½	.09¾	.08¾	.09	.08¼	.09
46 Kerosene water white	.09¾	.10	.09¼	.09½	.09¼	.09½
47 Kerosene water white	.10¾	.11	.10	.10¼	.10	.10½
34 Neutral	.07½	.07¾	.07½	.07¾	.07½	.07¾
34 Sundebloom Neutral	.08½	.08¾	.08½	.08¾	.08½	.08¾
36 Miners' Neutral	.06¾	.07	.06¾	.07	.06¾	.07
300 Mineral Seal	.07¾	.08	.07¾	.08	.07¾	.08
CALIFORNIA—						
38-40 water white (high burning test)	.07½	.08	.07½	.08½	.07½	.08½
Engine distillate, 43-45 445 end point	.09¾	.10	.09¾	.10	.09¾	.10
Engine distillate, 42-44 480 end point	.09¼	.09½	.09¼	.09½	.09¼	.09½
CHICAGO DISTRICT (Based on Group 3)—						
41-43 water white Kerosene	.08¼	.08½	.08		.06¾	
42-44 water white Kerosene	.09		.08¼	.08½	.07	.07¼

*Colorado points.

FUEL OILS

	Aug. 3		July 27		July 20	
KANSAS—						
24-26 Fuel Oil	1.35	1.40	1.35	1.40	1.35	1.40
32-36 Gas Oil	.04⅝	.04¾	.04½	.04¾	.04½	.04⅝
38-40 Distillate	.05¼	.05½	.04⅞	.05⅛	.04¾	
OKLAHOMA (Group 3)—						
Below 22 Fuel Oil (sellers' cars)	1.25		1.25		1.20	
22-26 Fuel Oil (sellers' cars)	1.27½	1.30	1.25	1.30	1.22½	1.25
24-26 Fuel Oil (sellers' cars)	1.30	1.35	1.30	1.35	1.25	
26-30 Fuel Oil (sellers' cars)	1.35	1.37½	1.35	1.37½	1.30	1.35
28-30 Fuel Oil (sellers' cars)	1.45	1.50	1.45		1.35	1.40
32-36 Gas Oil (cracking stock)	.04⅜	.04½	.04⅛	.04⅜	.04⅛	.04¼
36-38 Distillate	.04¾	.05	.04½	.05⅛	.04½	.05⅛
38-40 Straw Distillate	.05	.05¼	.04¾	.04⅞	.04⅝	.04¾
NORTH TEXAS—						
24-26 Fuel Oil (sellers' cars)	1.40	1.45	1.32½	1.37½	1.30	1.35
32-36 Gas Oil (straw)	.04⅜	.04½	.04⅛	.04¼	.04⅛	.04¼
38-40 Straw Distillate	.05	.05¼	.04⅝	.04¾	.04½	.04⅝
NORTH LOUISIANA—						
18-20 Fuel Oil	1.35	1.40	1.35	1.40	1.35	1.40
32-36 Gas Oil (straw)	.04¼	.04½	.04¼	.04½	.04¼	.04½
32-36 Gas Oil (dark)	.04⅛	.04¼	.04⅛	.04¼	.04⅛	.04¼
36-38 Distillate	.04¾	.05	.04½	.04¾	.04½	.04¾
ARKANSAS—						
38-40 Distillate	.04¾	.05	.04½	.04¾	.04¼	.04½
32-36 Gas Oil	.04½	.04¾	.04¼	.04½	.04¼	.04½
16-20 Refinery Fuel Oil	1.22½	1.25	1.25	1.30	1.22½	1.25
GULF COAST (South Texas)—						
Gas Oil	.05⅝	.05¾	.05½	.05¾	.05½	.05¾
Fuel Oil	1.75	1.85	1.75	1.85	1.75	1.85
PENNSYLVANIA—						
30-34 Fuel Oil	.05¾	.05⅞	.05¾	.05⅞	.05¾	.05⅞
36-40 Fuel Oil	.06¼	.06½	.06¼	.06½	.06¼	.06½
CALIFORNIA—						
33-36 Distillate	.04	.04¾	.04	.04¾	.04	.04¾
27-32 Distillate	.03¾	.04	.03¾	.04	.03½	.04
15-20 Fuel Oil (at tide water)	1.00	1.04	1.00	1.04	1.00	1.04
27 plus Diesel	1.15	1.19	1.15	1.19	1.15	1.19
CHICAGO DISTRICT (Based on Group 3)—						
24-26 Fuel Oil (sellers' cars) Group 3	1.27½	1.32½	1.25	1.30	1.20	1.25
22-26 Fuel Oil (sellers' cars) Group 3	1.25	1.30	1.22½	1.25	1.20	1.22½
18-22 (Group 3)	1.25	1.27½	1.20	1.22½	1.17½	1.20
18-20 (Smackover)	1.22½	1.25	1.20	1.22½	1.20	
32-36 Gas Oil	.04⅜	.04½	.04⅛	.04⅜	.04⅛	.04⅜
36-38 Distillate	.04⅞	.05	.04½	.04⅝	.04¼	.04⅝
38-40 Straw Distillate	.05		.04¾	.05	.04½	.04¾

LUBRICATING OILS AND WAX

	Aug. 3		July 27		July 20	
OKLAHOMA (Group 3)—						
70-80 vis., 2½ color, 20-25 cold test	.06	.07	.06	.07	.06	.07
100 vis., 3 color, 20-25 cold test	.06½	.07	.06½	.07	.06½	.07
100 vis., 2 color, 20-25 cold test	.07	.07½	.07	.07½	.07	.07½
150 vis., 4 color, 20-25 cold test	.09¾		.09¾		.09¾	
150 vis., 3 color, 20-25 cold test	.09½	.10	.09½	.10	.09½	.10
180 vis., 4 color, 23-28 cold test	.10	.10½	.10	.10½	.10	.10½
180 vis., 3 color, 23-28 cold test	.10½	.11½	.10½	.11½	.10½	.11½
200 vis., 4 color, 23-28 cold test	.11¼	.11½	.11¼	.11½	.11¼	.11½
200 vis., 3 color, 23-28 cold test	.11¼	.12¼	.11¼	.12¼	.11¼	.12½
220 vis., 4 color, 25-30 cold test	.13		.13		.13	
220 vis., 3 color, 25-30 cold test	.13½	.14	.13½	.14	.13½	.14
240 vis., 4 color, 25-30 cold test	.14	.14½	.14	.14½	.14	.14½
240 vis., 3 color, 25-30 cold test	.14½	.15	.14½	.15	.14½	.15
280 vis., 4 color, 25-30 cold test	.15½	.16½	.15½	.16½	.15½	.16½
280 vis., 3 color, 25-30 cold test	.16½	.17	.16½	.17	.16½	.17
180 vis., 5 color, 23-28 cold test	.09¾	.10¼	.09¾	.10¼	.09¾	.10¼
200 vis., 5 color, 23-28 cold test	.10¾	.11¼	.10¾	.11¼	.10¾	.11¼
220 vis., 5 color, 25-30 cold test	.12	.12¾	.12	.12¾	.12	.12¾
240 vis., 5 color, 25-30 cold test	.13	.14	.13	.14	.13	.14
280 vis., 5 color, 25-30 cold test	.15	.16	.15	.16	.15	.16
Cylinder Stocks:						
180-200 vis., S. R. green, 40-45 cold test	.08¼	.11	.08¼	.11	.08¼	.11
190-200 vis., S. R. green, 40-45 cold test	.08	.08½	.08	.08½	.08	.08½
170-190 dark green, 40-45 cold test	.06	.06½	.06	.06½	.06	.06½
190-200 vis. @ 210 "D" Bright Stock	.33	.35	.33	.35	.33	.35
200-210 vis. @ 210 "E" Bright Stock	.30	.31	.30	.31	.30	.31
150 vis. @ 210 "E" Bright Stock	.27	.28	.27	.28	.27	.28
150 vis. @ 210 "D" Bright Stock	.28	.31	.28	.31	.28	.31
Waxes:						
122-124 White Crude Scale Wax	.04¾		.04¾		.04¾	
PENNSYLVANIA—						
150, 3 color	.23		.24		.24	
180, 3 color	.26½		.27½		.27½	
200, 3 color	.28½		.29		.29	
220, 3 color	.30		.31		.31	
600, steam refined	.13½		.13½		.13½	
635, steam refined	.17		.17		.17	
650, steam refined	.18		.18		.18	
600, Pennsylvania flash	.25½		.25½		.25½	
630, Pennsylvania flash	.33		.32½		.32½	

REFINERY AND CRUDE PRICES

Quotations on Principal Refined Products and Crude Petroleum Markets in All the American Oil Fields

*550, E filtered	.19		.19		.19	
600, E filtered	.19½		.19½		.19½	
*600, E filtered	.20½		.20½		.20½	
600, D filtered	.26½		.26½		.26½	
550, E filtered	.18		.18		.18	
550, D filtered	.22		.22		.22	
Pennsylvania Bright Stock	.41½		.41		.41	
122-124 White Crude Scale Wax	.05¼	.05⅜	.05¼	.05⅜	.05¼	.05⅜
†124 126 White Crude Scale Wax	.05⅜	.05½	.05⅜	.05½	.05⅜	.05½

*At Warren, Pa. †At New York City.

GULF COAST (South Texas)—						
Zero Black	.06	.07	.06	.07	.06	.07
No. 2 color, 100 vis., pale oil	.07½	.08	.07½	.08	.07½	.08
No. 3 color, 200 vis., pale oil	.11½	.12	.11½	.12	.11½	.12
No. 3½ color, 300 vis., pale oil	.12½	.13½	.12½	.13½	.12½	.13½
No. 3¾ color, 500 vis., pale oil	.14½	.15	.14½	.15	.14½	.15
No. 4 color, 750 vis., pale oil	.18½	.19	.18½	.19	.18½	.19
No. 2 plus color, 200 vis., pale filtered	.21½		.21½		.21½	
No. 2 color, 300 vis., pale filtered	.24½		.24½		.24½	
No. 2½ color, 500 vis, pale filtered	.27½		.27½		.27½	
No. 2½ color, 750 vis., pale filtered	.35½		.35½		.35½	
No. 5 to 6 color, 200 vis., red oil	.09½	.10	.09½	.10	.09½	.10
No. 5 to 6 color, 300 vis., red oil	.11½	.13	.11½	.13	.11½	.13
No. 5 to 6 color, 500 vis., red oil	.12½	.13	.12½	.13	.12½	.13
No. 5 to 6 color, 750 vis., red oil	.16½	.17½	.16½	.17½	.16½	.17½
CALIFORNIA—						
130 vis., 2½-3 color	.10	.11½	.10	.11½	.10	.11½
200 vis., 2½-3 color	.13½	.14½	.13½	.14½	.13½	.14½
300 vis., 3 -3½ color	.15	.16	.15	.16	.15	.16
350 vis., 3½-3 color	.16½	.17½	.16½	.17½	.16½	.17½
400 vis., 3½-4 color	.18	.19	.18	.19	.18	.19
Red Neutrals:						
200 vis., 4½-5 color	.12	.13	.12	.13	.12	.13
300 vis., 5 -6 color	.13	.14	.13	.14	.13	.14
400 vis., 5 -6 color	.15	.16	.15	.16	.15	.16
500 vis., 4½ 5 color	.18	.19	.18	.19	.18	.19
500 vis., 6 6½ color	.16	.17	.16	.17	.16	.17
600 vis., 6½ plus color	.17	.18	.17	.18	.17	.18

Note: Bright stocks are not manufactured commercially on the Pacific Coast.

NEW YORK (BAYONNE) REFINERY PRICES

Gasoline:	Aug. 3	July 27	July 20
U. S. Motor, 58-60 437	.14	.14	.15
Export, 64-66 375	.16	.16	.17
Kerosene, prime white, 41-43	.09½	.09	.09⅛
*Bunker Oil, 14-16, per bbl.	1.75	1.75	1.75
*Diesel Oil, 28-30, per bbl.	2.50	2.50	2.50
Gas Oil, 28 plus	.06¾	.06¾	.06¾
Cylinder Oil, light filtered, 600 s.r.	.29	.29	.29
Bright Stock, No. 5, 150 vis., at 212 F.	.41	.41	.41
White Neutral, No. 1, 170 vis, 1 color	.37	.37	.37
Pale Oil, "25," 170 vis., 3½ color	.13	.13	.13
Pale Oil, "28," 100 vis., 2 color	.08	.08	.08
Red Oil:			
No. 3, 160 vis., 7 color	.11	.11	.11
No. 2, 212 vis., 5½ color	.12	.12	.12
No 1, 265 vis., 5½ color	.13½	.13½	.13½
Polar, 295 vis., 6 color	.14	.14	.14
Paraffin Wax, refined:			
120-122 a.m.p., per lb.	.06	.06	.06
125-127 a.m.p., per lb.	.06⅛	.06⅛	.06⅛
130-132 a.m.p., per lb.	.06½	.06½	.06½
135-137 a.m.p., per lb.	.07	.07	.07
Petrolatum, in bbls., per lb.:			
Dark green	.01⅞	.01⅞	
Amber	.03⅛	.03⅛	.03⅛
Light amber	.03½	.03½	.03½
Cream	.05½	.05½	.05½
Lily white	.07½	.07½	.07¾
Snow white	.08½	.08½	.08¾

*Lighterage 5.5c a barrel extra.

NEW YORK CASE EXPORT PRICES

	Aug. 3	July 27	July 20
Gasoline, U. S. Motor, 58-60	.28.90	.28 90	.28.90
Kerosene:			
Standard white Kerosene	.19.15	.18.90	.18.90
Water white Kerosene	.20 65	.20.15	.20.15

LOS ANGELES EXPORT PRICES

	Aug. 3		July 27		July 20	
Kerosene water white	.05½	.06½	.05½	.06½	.05½	.06½
U. S. Motor Gasoline, 54 56 437 e.p.	.10	.10½	.10	.10½	.10	.10½

CRUDE OIL PRICES

OKLAHOMA, KANSAS AND NORTH TEXAS

***Prairie Oil & Gas Co.**
(Oklahoma, Kansas and North and East Central Texas)
(Effective May 15)

28° to 28.9°	$1.65
29° to 29.9°	1.73
30° to 30.9°	1.81
31° to 31.9°	1.89
32° to 32.9°	1.97
33° to 33.9°	2.05
34° to 34.9°	2.13
35° to 35.9°	2.21
36° to 36.9°	2.29
37° to 37.9°	2.37
38° to 38.9°	2.45
39° to 39.9°	2.53
40° to 40.9°	2.61
41° to 41.9°	2.69
42° to 42.9°	2.77
43° to 43.9°	2.85
44° to 44.9°	2.93
45° to 45.9°	3.01
46° to 46.9°	3.09
47° to 47.9°	3.17
48° to 48.9°	3.25
49° to 49.9°	3.33
50° to 50.9°	3.41
51° to 51.9°	3.49
52° and above	3.57

*Other major purchasers except as noted below.

Champlin Refining Co.
(Garber and Tonkawa)
(Effective May 15)

Schedule based on Prairie Oil & Gas Co. paying 10 cents additional for each grade of crude above 38° gravity.

Humble Oil & Refining Co.
(Effective May 15)
(North and East Central Texas, Ranger, Mexia, Powell, Richland, Wortham, Currie, Moran, Big Lake, Nacona and Lytton Springs)

Same prices as Prairie Oil & Gas Co. schedule. Postings below 28° gravity 8 cents less for each degree, effective June 21.

Magnolia Petroleum Co.
(Effective May 15)
(Oklahoma, Kansas and North and East Central Texas, except Corsicana heavy, and Lytton Springs of South Central Texas)

Below 28°	$1.30
Other grades same as Prairie Oil & Gas Co.	
Iatan	$1.15
Corsicana heavy	1.25
Panola County:	
30° to 34.9°	$1.95
35° to 37.9°	2.10
38° and above	2.25

Texhoma Oil & Refining Co.
(Wichita Falls, Tex., District)
(Effective May 16)

28° to 28.9°	1.70
29° to 29.9°	1.78
30° to 30.9°	1.86
31° to 31.9°	1.94
32° to 32.9°	2.02
33° to 33.9°	2.10
34° to 34.9°	2.18
35° to 35.9°	2.26
36° to 36.9°	2.34
37° to 37.9°	2.42
38° to 38.9°	2.50
39° to 39.9°	2.58
40° to 40.9°	2.66
41° to 41.9°	2.74
42° to 42.9°	2.82
43° to 43.9°	2.90
44° and above	2.98

TEXAS PANHANDLE

Kay County Gas Co.
Magnolia Petroleum Co.
(Effective May 15)

28° to 28.9°	$1.35
29° to 29.9°	1.40
30° to 30.9°	1.45
31° to 31.9°	1.50
32° to 32.9°	1.55
33° to 33.9°	1.60
34° to 34.9°	1.65
35° to 35.9°	1.70
36° to 36.9°	1.75
37° to 37.9°	1.80
38° to 38.9°	1.85
39° and above	1.90

Humble Oil & Refining Co.
(Effective June 21)

39° to 39.9°	$1.90
40° to 40.9°	1.95
41° to 41.9°	2.00
42° to 42.9°	2.05
43° to 43.9°	2.10
44° and above	2.15

Grades below 39° gravity same as posted by Magnolia Petroleum Co. and Kay County Gas Co.

GULF COAST

***Humble Oil & Refining Co.**
(Effective May 15)

Grade A	$1.60
Grade B—	
Below 25°	1.50
25° to 25.9°	1.55
26° to 26.9°	1.60
27° to 27.9°	1.65
28° to 28.9°	1.70
29° to 29.9°	1.75
30° to 30.9°	1.80
31° to 31.9°	1.85
32° to 32.9°	1.90
33° to 33.9°	1.95
34° to 34.9°	2.00
35° and above	2.05
Boling (December 26)	1.50
High Island (Sun Oil Co.) (Apr. 30)	1.40

The Texas Company
(Effective June 8)

Grade A	$1.60
Grade B	1.50
†Light crude—	
35° to 35.9°	2.05
36° to 36.9°	2.10
37° to 37.9°	2.15
38° to 38.9°	2.20
39° to 39.9°	2.25
40° and above	2.30

*The Sun Pipe Line Co.'s postings same as Humble Oil & Refining Co.'s.
†The Texas Company's postings on light crude under 35° gravity are same as Humble Oil & Refining Co.'s grades and prices for Grade B crude.

SOUTH CENTRAL AND SOUTHWEST TEXAS

***Magnolia Petroleum Co.**

Luling (contract) (Eff. May 18)	$1.30
Mirando (Webb, Jim Hogg and Zapata Counties) (May 15)	1.25
Rockdale-Minerva (Milam County)	1.25
Thrall	1.00
Calliham (Live Oak and McMullen Counties) (May 15)	1.75
§Lockhart (Lytton Springs)	
Somerset (Grayburg Pipe Line Co.): (Effective May 17)	
28° to 28.9°	1.25
29° to 29.9°	1.35
30° to 30.9°	1.71
31° to 31.9°	1.89
32° to 32.9°	1.97
33° to 33.9°	2.05
34° to 34.9°	2.13
35° to 35.9°	2.20
36° to 36.9°	2.29
37° to 37.9°	2.37
38° and above	2.45

*Texpata Pipe Line Co. and Humble Pipe Line Co. also post in Mirando Field paying same prices as Magnolia Petroleum Co.
§Lockhart prices same as for North and East Central Texas. Lockhart posted by Magnolia Petroleum Co. and Humble Oil & Refining Co.

ARKANSAS AND NORTH LOUISIANA

Standard Oil Co. of Louisiana
(Effective May 18)

Caddo:	
Below 26° (July 24)	$1.40
26° to 28.9° (July 24)	1.55
29° to 31.9° (July 24)	1.70
32° to 34.9°	2.25
35° to 37.9°	2.35
38° and above	2.45
Homer below 31°	1.85
31° to 32.9°	2.00
33° to 34.9°	2.10
35° and above	2.20
Haynesville below 33°	2.00
33° and above	2.10
El Dorado below 33°	2.00
33° to 34.9°	2.10
35° to 36.9°	2.20
37° and above	2.30
Bull Bayou, 32° to 34.9°	1.95
35° to 37.9°	2.10
38° and above	2.25
Cotton Valley	1.20
DeSoto	2.30
Crichton	2.10
Bellevue	1.50
Smackover, below 24°	1.10
24° to 24.9°	1.35
25° to 25.9°	1.40
26° to 26.9°	1.45
27° and above	1.50
*Stephens, Ark., below 26°	1.45
26° and above	1.65
†Calion (East El Dorado)	1.10
‡Urania (May 26)	1.25

Other companies posting in these fields are: Gulf Pipe Line Co.; Atlantic Oil Producing Co. in Homer, Haynesville, El Dorado and Smackover; The Texas Company in Caddo, Bull Bayou, DeSoto, Crichton and Smackover.

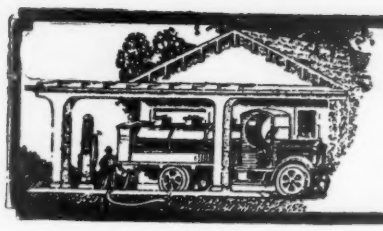
*Posted by the Atlantic Oil Producing Co. †Posted by the Gulf Pipe Line Co. §Posted by the Louisiana Oil Refining Corp.

ROCKY MOUNTAIN STATES

Ohio Oil Co.—Midwest Refining Co.
(Effective May 17)

Rock Creek (Wyo.)	$2.25
Salt Creek—	
29° to 29.9°	1.73
30° to 30.9°	1.81
31° to 31.9°	1.89
32° to 32.9°	1.97
33° to 33.9°	2.05
34° to 34.9°	2.13
35° to 35.9°	2.21
36° to 36.9°	2.29
37° and above	2.37

(Continued on Page 125)



TANK WAGON MARKETS

Tankwagon quotations for gasoline and kerosene in United States as furnished by the larger marketing concerns, Aug. 3.

ALL TANK WAGON AND SERVICE STATION QUOTATIONS INCLUDE TAXES

STANDARD OIL CO. (INDIANA)
Main Service Station Price

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incids tax of	Kero. Tank wagon
Chicago Dist.—				
†Less than 100 gals.	19.0	21.0	...	13.5

Tank wagon prices on April 19, 1922; g. up 1½c; May 8, up 1c; June 27, g. and k. up 1c; July 19, g. down 2c, k. down 1c; Oct. 10, g. down 2c; Oct. 21, g. down 1c; Feb. 5, 1923, g. up 1c; Feb. 20, g. up 1c; Aug. 14, g. down 6.6c; Oct. 4, k. down 1½c; Nov. 10, g. down 1.4c; Dec. 20, g. up 2c; Jan. 12, 1924, g. up 2c; k. up 1c; Feb. 5, g. up 2c, k. 1c; July 18, g. down 1c; July 30, g. and k. down 1c; Sept. 12, g. down 2c; Jan. 23, 1925, g. up 1c; Jan. 26, g. up 1c; Jan. 31, g. up 1c; Feb. 12, g. up 2c, k. up 1c; April 19, g. down 1c; July 14, g. up 1c; Aug. 25, g. down 2c, k. down 1c; Sept. 1 g. down 1c; Feb. 4, 1926, g. up 1c; k. up 1c; April 16, 1926, k. up 1c; April 24, 1926, k. up ½c; April 29, 1926, g. up 1c, k. up ½c; May 6, 1926, k. up ½c May 17, g. and k. up 1c July 1, k. down 1c; July 3, k. down 1c.

Decatur, Ill.	19.2	21.2	...	14.0
E. St. Louis	18.1	20.35	...	13.1
Joliet	19.4	21.4	...	14.2
Peoria	19.2	21.2	...	14.0
Quincy	19.2	21.2	...	13.8
Davenport, Ia.	21.5	23.5	2.0	14.4
Des Moines	21.5	23.5	2.0	14.4
Keokuk	21.5	23.5	2.0	14.4
Sioux City	21.0	23.0	2.0	14.0
Duluth, Minn.	22.5	24.5	2.0	15.1
Minneapolis	22.2	24.2	2.0	15.1
La Cross, Wis.	22.2	24.2	2.0	14.9
Milwaukee	21.1	23.1	2.0	14.8
Madison	21.3	23.3	2.0	14.0
Detroit, Mich.	21.8	23.8	2.0	14.7
Grand Rapids	21.7	23.7	2.0	14.6
Saginaw	21.9	23.9	2.0	15.8
Evansville, Ind.	22.0	24.0	3.0	14.0
Ft. Wayne	22.4	24.4	3.0	14.4
Indianapolis	22.2	24.2	3.0	14.2
South Bend	22.4	24.4	3.0	14.4
Fargo, N. D.	23.9	25.9	2.0	17.1
Huron, S. D.	23.5	25.5	3.0	15.6
Sioux Falls	22.0	24.0	3.0	15.1
*K. C., Mo.	21.9	23.9	3.0	12.8
*Springfield	21.8	23.8	3.0	12.7
*St. Louis	20.6	22.9	2.5	13.5
*St. Joseph	21.0	23.0	2.5	13.4
‡Wichita, Kan.	19.8	21.8	2.0	13.8
Bartlesville, Ok.	20.8	23.8	3.0	13.8

*State tax is 2c. Remainder is city tax.
†Quantity price on more than 100 gallons, 18.0.
‡At all Kansas points a discount of 1 cent a gallon is allowed from the tank wagon postings on dumps of 50 gallons or more.

The following monthly rebate system is effective on tankwagon schedules throughout the territory of Standard Oil Co. of Indiana: Over 750 gallons, ¾c; over 2,000 gallons, ⅞c; over 3,000 gallons 1c; over 6,000 gallons, 1¼c; over 10,000 gallons, 2c. If quantity bought during the year is equal to 12 times the monthly agreed purchases the discount will be paid or credited on the entire quantity less monthly payments. Service station customers will receive discount of 1 cent a gallon on purchases amounting to 200 gallons a month or 2,400 gallons a year; and 2 cents a gallon on 600 gallons a month or 7,200 gallons a year.

STANOLIND FURNACE OIL
(Standard Oil Co. of Indiana)

1 to 148 gallons	11.0
50 to 399 gallons	10.0
400 to 849 gallons	9.5
850 or more gallons	9.0

SOUTHWESTERN DISTRICT
***Magnolia Petroleum Co.**

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incids tax of	Kero. Tank wagon
Dallas, Tex.	†21.0	21.0	1.0	14.0
Fort Worth	†21.0	21.0	1.0	14.0
Houston	†21.0	21.0	1.0	14.0
San Antonio	†19.0	19 0	1.0	14.0
El Paso	†23.0	22.0	1.0	15.0
Texarkana	†20.0	20.0	1.0	14.0
Muskogee, Ok.	20.0	23.0	3.0	13.0
Oklahoma City	20.0	23.0	3.0	13.0
Tulsa	20.0	23.0	3.0	13.0
Little Rock	21.0	24.0	4.0	15.5
Ft. Smith, Ark.	21.0	24.0	4.0	15.5

*The following is the schedule of discounts on quantity gasoline sales adopted by the Magnolia Petroleum Co. in Oklahoma: Over 750 gallons a month, ½c; over 2,000 gallons, ¾c; over 3,000 gallons 1c; over 4,500 gallons, 1¼c; over 6,000 gallons, 1½c; over 8,000 gallons, 1¾c; over 10,000 gallons, 2c. If the quantity bought during the year is 12 times the monthly agreed purchases, the discount will be paid or credited on the entire quantity for the year less any monthly purchases.

The schedule on service station deliveries is: Over 200 gallons a month, 1c; over 300 gallons a month, 1¼c; over 400 gallons, 1½c; over 500 gallons, 1¾c; over 600 gallons, 2c. The same rule applies for annual purchases as in the tankwagon discounts.

†Magnolia maintains only a retail schedule in Texas with dealers and large consumers allowed a flat 3-cent discount.

CENTRAL SOUTH DISTRICT
Standard Oil Co. (Louisiana)

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incids tax of	Kero. Tank wagon
*New Orleans	20.5	23.5	3.0	15.0
Alexandria	20.0	23.0	3.0	16.0
Baton Rouge	19.0	23.0	3.0	14.5
LaFayette	20.0	23.0	3.0	15.5
Lake Charles	20.5	23.5	3.0	16.0
Shreveport, La.	19.0	22.0	3.0	15.0
Memphis, Tenn.	21.5	24.5	3.0	17.0
Chattanooga	23.5	26.5	3.0	17.5
Knoxville	23.5	26.5	3.0	18.0
Nashville	23.5	25.5	3.0	18.0
Bristol	24.0	27.0	3.0	17.5
Little Rock Ark	23.0	25.0	4.0	16.0

*Tax of 3c includes city tax of 1c.

SOUTHERN DISTRICT
Standard Oil Co. (Kentucky)

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incids tax of	Kero. Tank wagon
Atlanta, Ga.	25 0	28 0	3 5	19 0
Augusta	25 0	28 0	3 5	18.0
Macon	25 0	28.0	3 5	19 0
Savannah	23 0	25.0	3.5	17.0
Birm'ghm, Ala.	23 0	25 0	2.0	18 5
Mobile	21 0	24 0	2 0	17.0
Montgomery	23 0	26 0	3 0	19 5
Clarksdale, Miss	23 0	26.0	4.0	16.5
Jackson	23 0	26 0	4.0	16.5
Natchez	23.5	25 5	4 0	16.0
Vicksburg	23 5	25 5	4 0	16 0
Jack'ville, Fla.	23 0	26.0	4.0	17.0
Miami	25 0	28 0	4 0	18 5
Pensacola	23.0	26.0	4.0	17.5
Tampa	23 0	26 0	4 0	17 0
Covington	24 0	27 0	5.0	18.0
Louisville	25.0	28.0	5.0	17.0
Lexington, Ky.	25.0	28.0	5.0	18.0

In addition to the state tax of 2c on gasoline, Montgomery has city tax of 1c on gasoline and ½c on kerosene. Prices in Georgia include ½c inspection fee on gasoline and kerosene; in Florida, an inspection feet of 0.125c; in Alabama, an inspection feet of ½c on kerosene only.

ROCKY MOUNTAIN DISTRICT
Continental Oil Co.

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incids tax of	Kero. Tank wagon
Denver, Colo.	22 0	22 0	2.0	17.0
Pueblo	22.0	24 0	2.0	17 0
Casper, Wyo.	22 5	24 5	2.5	15 5
Cheyenne	23.5	25.5	2.5	17.0
Butte, Mont.	24 0	24 0	2.0	19.5
Helena	26 0	28 0	2 0	19 5
Salt Lake, Utah	26 0	28.0	2.5	18 5
Boise, Idaho	27.0	29.0	2.0	20.5
Albuquerque, N. Mex.	23.5	23.5	2.0	19.0

ATLANTIC COAST DISTRICT
Standard Oil Co. (New Jersey)

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incids tax of	Kero. Tank wagon
Atlantic City	19.0	....	...	16.0
Newark, N. J.	19.0	21.0	...	16.0
Annapolis, Md.	21.0	....	2.0	16.0
Baltimore	21.0	24.0	2.0	16.0
Cumberland	21.0	24.0	2.0	16.0
Washington	21.0	24.0	2.0	16.0
Danville, Va.	23.5	....	4.5	16.0
Norfolk	23.5	26.5	4.5	16.0
Petersburg	23.5	26.5	4.5	16.0
Roanoke	23.5	26.5	4.5	16.0
Richmond	23.5	26.5	4.5	16.0
Charleston, W. Va.	22.5	25.5	3.5	16.0
Keyser	22.5	....	3.5	16.0
Parkersburg	22.5	25.5	3.5	16.0
Wheeling	22.5	25.5	3.5	16.0
Charlotte, N. C.	23.5	26.5	4.0	16.0
Hickory	23.5	....	4.0	16.0
Mt. Airy	23.5	26.5	4.0	16.0
Salisbury	23.5	26.5	4.0	16.0
Charleston, S.C.	24.5	27.5	5.0	16.0
Columbia	24.5	27.5	5.0	16.0

NEW YORK AND PART OF NEW ENGLAND DISTRICT
Standard Oil Co. (New York)

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incids tax of	Kero. Tank wagon
Albany, N. Y	21.0	....	...	17.0
*New York	21.0	....	...	17.0
Buffalo	20.0	....	...	17.0
Rochester	21.0	....	...	15.0
Syracuse	21.0	....	...	17.0
Boston, Mass.	21.0	....	...	17.0
Augusta, Me.	24.0	....	3.0	17.0
Manchester, N. H.	23.0	....	2.0	17.0
Burlington, Vt.	22.0	....	2.0	17.0

*Price in steel barrels.
Note: Standard Oil Co. of New York does not generally quote service station price in its territory. In most cases the service station price is 2 or 3 cents higher than tankwagon price.

PACIFIC COAST DISTRICT
Standard Oil Co. (California)

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incids tax of	Kero. Tank wagon
San Francisco	18.0	22.0	3.0	15.5
Los Angeles	16.5	20.5	2.0	16.5
Fresno	18.5	23.5	3.0	17.5
Reno, Nev.	23.5	27.5	4.0	19.0
Portland, Ore.	19.0	23.0	3.0	16.5
Seattle, Wash.	18.0	22.0	3.0	16.5
Spokane	22.0	26.0	3.0	20.5
Tacoma	18.0	22.0	2.9	16.5
Phoenix, Ariz.	26.0	28.0	3.0	21.5

CALIFORNIA CRUDE PRICES
***Standard Oil Co.-Union Oil Co.**
(Effective March 11)

Gravity—	Long Beach Huntington Beach Richfield Brea-Olinda Rosecrans-Dom'guez Torrance-Inglewood	Whittier La Habra Montebello	Kern River Newhall-McKittrick Midway-Sunset Elk Hills Lost Hills Belridge	Coyote	Santa Fe Springs	Coalinga	Wheeler Ridge	Santa Maria Ventura Salt Lake
14°	.85	.85	.75	.85	....	.75	.75	.85
15°	.87	.85	.75	.85	....	.75	.75	.85
16°	.90	.85	.75	.85	....	.75	.75	.85
17°	.94	.85	.75	.85	....	.75	.75	.85
18°	.98	.86	.75	.86	....	.75	.75	.85
19°	1.04	.87	.75	.87	....	.75	.75	.85
20°	1.10	.89	.82	.90	.89	.79	.78	.90
21°	1.16	.91	.90	.93	.91	.86	.81	.97
22°	1.22	.94	1.00	1.06	.94	.93	.85	1.04
23°	1.28	.97	1.11	1.14	.97	1.00	.89	1.11
24°	1.34	1.01	1.22	1.22	1.02	1.07	.93	1.18
25°	1.40	1.05	1.33	1.30	1.08	1.14	.97	1.25
26°	1.46	1.09	1.44	1.38	1.16	1.21	1.01	1.32
27°	1.52	1.13	1.55	1.46	1.24	1.28	1.05	1.39
28°	1.58	1.17	1.66	1.54	1.32	1.35	....	1.46
29°	1.64	1.21	1.77	1.62	1.40	1.42	....	1.53
30°	1.70	1.25	1.88	1.70	1.48	1.49	....	1.60
31°	1.76	....	1.99	....	1.60	1.56	....	1.67
32°	1.84	....	2.10	....	1.72	1.63	....	1.73
33°	1.92	....	2.21	....	1.84	1.70	....	1.79
34°	2.00	....	2.32	....	1.96	1.77	....	1.85
35°	2.08	....	....	....	2.08	1.84	....	1.92
36°	2.16	....	....	....	2.16	....	....	....
37°	2.24	....	....	....	2.24	....	....	....
38°	2.34	....	....	....	2.34	....	....	....
39°	2.44	....	....	....	2.44	....	....	....
40°	2.54	....	....	....	....	....	....	....
41°	2.64	....	....	....	....	....	....	....
42°	2.74	....	....	....	....	....	....	....

*Column 2—Long Beach and Huntington Beach crudes, 14 to 32 degrees, inclusive; Richfield and Brea-Olinda, 14 to 30 degrees; Torrance and Inglewood, 14 to 28; Dominguez, 24 to 42 degrees. Rosecrans crude ranges from 14 to 42 degrees, but only Union Oil Co. posts below 24 degrees.
Column 3—Whittier and La Habra crudes, 14 to 22 degrees; Montebello, 14 to 30 degrees.
Column 4—Kern River, Newhall and McKittrick, 14 to 19 degrees; Midway-Sunset and Elk Hills, 14 to 23 degrees; Lost Hills and Belridge, 14 to 34 degrees.
Column 6—Santa Fe Springs. Only Union Oil Co. posts below 24 degrees.
Column 9—Salt Lake, 14 to 19 degrees, inclusive; Santa Maria, 14 to 30 degrees; Ventura, 14 to 25 degrees. Posted only by Union Oil Co.

PENNSYLVANIA-DELAWARE AND PART NEW ENGLAND
Atlantic Refining Co.

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incids tax of	Kero. Tank wagon
*Pittsburgh, Pa.	20.0	25.0	...	17.0
*Philadelphia	20.0	25.0	...	17.0
*Scranton	20.0	25.0	...	17.0
*Allentown	20.0	25.0	...	17.0
Altoona	20.0	25.0	...	17.0
*Erie	20.0	25.0	...	17.0
Dover, Del.	22.0	25.0	2.0	17.0
Wilmington	22.0	25.0	2.0	17.0
Springf'd, Mass.	21.0	23.0	...	17.0
Worcester	21.0	24.0	...	17.0
Boston	21.0	24.0	...	17.0
Providence, R.I.	22.0	24.0	1.0	17.0
Hartford, Conn.	23.0	26.0	2.0	16.0
New Haven	23.0	26.0	2.0	17.0

*Pennsylvania tax of 2c is collected by the dealer and paid by him direct to the State.

NEBRASKA
Standard Oil Co. (Nebraska)

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incids tax of	Kero. Tank wagon
Omaha	21 25	23 25	2.0	14.0
McCook	22.75	24 75	2.0	16.5
Norfolk	21 75	23 75	2.0	14.5
N. Platte	22 75	24.75	2.0	16.25
Scottsbluff	23.25	24.25	2.0	14.75

OHIO
Standard Oil Co. (Ohio)

	Gasoline: Tank wagon	Gasoline: Service station	Gasoline: Incids tax of	Kero. Tank wagon
All Ohio points	22.0	24.0	2.0	16.0

TANKWAGON CHANGES

July 8—Standard Oil Co. of Ohio reduced kerosene tankwagon prices 1 cent.

July 24—Magnolia Petroleum Co. advanced gasoline tankwagon and service station prices 1 cent in Tulsa.

July 23—Magnolia Petroleum Co. advanced gasoline tankwagon and service station prices 1 cent in San Antonio.

July 30—Due to an increase of 1 cent in the North Dakota gasoline tax, gasoline tankwagon and service station prices were advanced 1 cent. Tax is now 2 cents.

CALIFORNIA MARKET REPORTED SATISFACTORY

LOS ANGELES, Calif., July 31.—Consumption of gasoline in the export trade both to the Atlantic Seaboard and to Atlantic foreign ports, showed a decided improvement during the past week. While slightly over 700,000 bbls. of petroleum products left Los Angeles Harbor for the Atlantic Coast, over 333,000 bbls. of this was gasoline. Atlantic foreign shipments totaled over 540,000 bbls. of which 82,596 bbls. was gasoline. The total consumption in both these trades was approximately 415,000 bbls. of gasoline, which is very satisfactory for this time of year.

According to figures just released by the Bureau of Mines, production of gasoline in California during June, decreased over 400,000 bbls. under May output. In spite of this lessened production of gasoline, stocks of refinable crude (20 degrees gravity A. P. I. and above) decreased over 1,750,000 bbls. during the same period. Stocks of gasoline during June decreased by over 200,000 bbls.

Production of natural gasoline continues to increase. During June, the increase reported by the Bureau of Mines was 931 bbls. per day. In spite of this increased production, daily average utilization was 231 bbls. more than daily average production. Stocks of this commodity decreased during the month by almost 7,000 bbls. It can readily be seen from these figures why the natural gasoline market has continued to hold the strongest position of all oils in the California oil market during the past few months.

While production of kerosene during June showed an increase of over 90,000 bbls., and during the same period stocks decreased by over 21,000 bbls., in spite of this, the spread on kerosene prices has narrowed down to between 7½ and 8 cents per gallon for domestic 38-40 degrees gravity A.P.I. material.

During the past week, enough signatures signing a petition for raising the gasoline tax in California from 2 to 3 cents per gallon were secured to bring the total number above that necessary to assure the placing of this initiative measure on the ballot.

1916
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SINCLAIR REFINING COMPANY
45 Nassau Street, New York

ATLANTA DETROIT KANSAS CITY CHICAGO HOUSTON OMAHA

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KANSAS FIELDS

(Continued from Page 35)

Section 8-26-6e, is dry and abandoned at 2,788 feet.

Butler County New Work

Hartman & Skaer's No. 1 W. J. Owen, SE cor. NE, Section 19-29-4e, is rigging up. Roth & Farrout's No. 1 S. C. Bull, SE cor. NW, Section 28-29-8e, is spudding. T. C. Johnson's No. 2 O. K. Line, SW cor. NE SW, Section 3-28-6e, is spudding. Phillips Petroleum Co.'s No. 2 Blankenship, NW cor. SE NW, Section 16-27-6e, is a rig. The same company's No. 2 R. Reynolds, SE cor. SW NW, Section 16-27-6e, is a rig.

Kingman County New Work

Marland is spudding No. 1 Padgett, NE cor. SW, Section 11-28-6w. Carter Oil Co.'s No. 2 W. W. Richardson, NW cor. NE SE, Section 16-27-7w, is drilling at 240 feet.

Greenwood County Completions

Frank Swift and others' No. 1 R. J. Edwards, SE cor. NW, Section 7-26-10e, is good for 75 bbls. from sand at 2,157-72 feet. H. L. Spencer has a dry hole at 2,365 feet in No. 1 M. E. Braden, SE cor. NW SE, Section 21-26-10e. Fisher & Louck's No. 1 C. Brookover, SW cor. SW, Section 19-25-11e, dry and abandoned at 2,045 feet. Roth, Faurot & Manhattan's No. 13 Cartright, C NE NE. Section 1-24-9e, got the sand at 2,258-2,313 feet and after a 60-quart shot is good for 40 bbls. Manhattan and Harwood & Winters' No. 2 Lindsmond, Section 19-24-11e, dry and abandoned at 1,915 feet. The same operators have another dry hole at 1,915 feet in No. 2 M. Freeman, SE cor. NW NE. Section 19-24-11e. Ward-McGinnis' No. 6-B Wiggins, NE cor. SW SW, Section 30-24-11e, made 80 bbls. after an 80-quart shot from sand at 1,845-75 feet. Manhattan and Phillips Petroleum Co.'s No. 2-B M. A. Scott, SW cor. NW SE, Section 25-23-8e, is good for 10 bbls. after a 40-quart shot in sand at 2,605-28 feet. Tom Conway's No. 1 G. Noller, NE cor. SE, Section 9-23-9e, sand at 2,521-44 feet, shot with 50 quarts and made 500 feet oil in hole. Shot again with 60 quarts in sand at 2,521-44 feet and made 15 bbls. oil and 20 bbls. water first day; 10 bbls. oil and 30 bbls. water second day.

Empire Gas & Fuel Co.'s No. 5 Morris, SE cor. SW NE. Section 19-23-9e, got the sand at 2,516-68 feet. Was shot with 100 quarts and made 75 bbls. Manhattan Oil Co.'s No. 7 Morris, SE cor. SW, Section 19-23-9e, made 25 bbls. of 42 gravity oil after a shot of 30 quarts in sand at 2,598-2,613 feet. Empire Gas & Fuel Co.'s No. 11 Piatt, SW cor. NE SW, Section 13-23-10e, is good for 75 bbls. after a 200-quart shot in sand at 2,033-82 feet. Syndicate Oil Co.'s No. 2 Fuller, NW cor. SW SW, Section 1-22-10e, got the sand at 2,015-2,080 feet, was shot with 220 quarts and made 200 bbls. of 41 gravity oil. The same operators' No. 2 Bradfield, NE cor. SE SE, Section 2-22-10e, got the sand at 2,038-93 feet. Was shot with 320 quarts and made 150 bbls. the first day and 100 bbls. the second day. Empire Gas & Fuel Co.'s No. 10 John Atyec, SW cor. SE NW, Section 6-22-10e, made 160 bbls. after a 140-quart shot in sand at 2,266-97 feet. Phillips has a dry hole at 2,213 feet in No. 7 Warrenbert, SE cor. NE SW, Section 12-22-10e. White Eagle's No. 4 Austin, SW cor. SE NW, Section 12-22-10e, is good for 130 bbls. after a shot of 220 quarts in sand at 2,063-2,160 feet. The Texas Company's No. 10 Prather, SE cor. NW SW, Section 29-22-10e, got the sand at 2,372-2,411 feet. Shot with 100 quarts and made 75 bbls. Simmons & Darby's No. 2 W. B. Hampe, SE cor. SW NW, Section 18-22-11e, completed for 75 bbls. after a 40-quart shot in sand at 2,095-2,111 feet. York State Oil Co.'s No. 11-C DeMalorie, SW cor. NE NW, Section 32-22-11e, got the sand at 1,980-2,031 feet. Shot with 160 quarts and made 100 bbls. Empire Gas & Fuel and Lamar & Hane's No. 4 Fankhauser, NW cor. SE SE, Section 4-22-12e, drilled to 1,864 feet in shale. Plugged back to 1,824 feet. Shot with 60 quarts in sand at 1,807-24 feet and made 100 bbls. Mississippi Valley's No. 1 H. Jeannert, NW cor. SW NW, Section 2-22-12e, dry and abandoned at 1,879 feet. Fisher & Louck's No. 4 Fankhauser, SE cor. SW NW, Section 4-22-12e, is good for 18 bbls. after a 40-quart shot in sand at 1,851-72 feet. Simmons and others' No. 9-B Fankhauser, SW cor. NE SE, Section 4-22-12e, got the sand at 1,803-25 feet. Shot with 140 quarts and made 150 bbls. T. K. Simmons' No. 3 Holderman, SE cor. NW NE, Section 9-22-12e, after a shot of 140 quarts in sand at 1,794-1,824 feet is good for 100 bbls. Braden Brothers' No. 6 Miller, CNL NE NE, Section 27-22-13e, made 40 bbls. naturally in sand at 1,823-47 feet.

Greenwood County New Work

Mississippi Valley Oil Co.'s No. 1 G. Badger, NE cor. NW, Section 5-26-10e, is a rig. Roth Faurot have moved in timbers for No. 2 C. H. Welsh, SW cor. NW NE, Section 13-25-8e. Vickers Petroleum Co.'s No. 1 H. A. Davis, NE cor. SE SE, Section 2-24-10e, is rigging up. R. W. Flack and others' No. 1 J. W. Watkins, SE cor. SW, Section 16-24-10e, is a rig. Phillips' No. 1 F. T. Nixon, SE cor. NE SE, Section 25-24-10e, is drilling at 750 feet. Manhattan Oil Co.'s No. 1 C. Lozier, NE cor. SE, Section 36-24-10e, is drilling at 285 feet. Ward-McGinnis are rigging up for No. 8-B Wiggins, NW cor. SW SW, Section 30-24-11e.

Manhattan Oil Co.'s No. 1 J. L. McDowell, SE cor. NW NE, Section 12-23-8e, is rigging up. Prairie is spudding in No. 1-B W. E. Hartley, NW cor. NE NW, Section 1-23-9e. Skelly is rigging up No. 4 Green, SE cor. NE NE, Section 15-23-9, and No. 5 Green, NW cor. SE NE, is a rig. Roth-Faurot & Manhattan's No. 1 C J. Wells, NW cor. NE, Section 33-23-10e, is a rig. Simmons and Amerada's No. 5 Tiffany, SW cor. NW SW, Section 9-23-11e, is drilling at 300 feet. J. F. Darby's No. 2 McGilvray, SE cor. NE NE, Section 17-23-11e, is drilling at 325 feet. Trocell's No. 1 W. H. Booth, SE cor. SW NE, Section 19-23-11e, is rigging up. Haverhill Petroleum Co.'s No. 11 Inthurm, CNL SE SE SE cor. Section 4-23-11e, is drilling at 900 feet. Haverhill Petroleum Co.'s No. 12 Inthurm, CNL NW NE, Section 9-23-13e, drilling at 300 feet. Mid-Continent Petroleum Corp.'s No. 12-B Dehlinger, SE cor. SW NW, Section 29-23-13e, drilling at 350 feet. Syndicate Oil Co.'s No. 3 Fuller, SE cor. SW NW, Section 1-22-10e, is drilling at 1,110 feet, and its No. 4 Fuller, SW cor. NW SW, is a rig. Empire Gas & Fuel Co.'s No. 11 John Atyec., NE cor. SW, Section 6-22-10e, is drilling at 765 feet. Its No. 12 Atyec, NW cor. NE SW, is a rig. Empire Gas & Fuel Co.'s No. 3 Jones, NW cor. SE, Section 6-22-10e, drilling at 360 feet. Phillips' No. 2 William Green, SE cor. NE NE of NE cor. Section 11-22-10e, is a rig. Hazlett and others' No. 21 Bitler, NE cor. SW SE, Section 12-22-10e, is a rig. Sinclair's No. 46 Browning, CNL SW SW, Section 20-22-10e, is a rig. Skelly Oil Co.'s No. 1-C Prather, SW cor. NE, Section 20-22-10e, is a rig. Empire Gas & Fuel Co.'s No. 9 Hind, SW cor. NE SW, Section 11-22-11e, is drilling at 360 feet. Empire Gas & Fuel Co.'s No. 14 Kipfer, NW cor. SW SE, Section 11-22-11e, is drilling at 760 feet. G. F. O'Neal's No. 1 G. B. Ingram, SE cor. NW NW, Section 29-22-11e, is drilling at 560 feet. Phillips' No. 3 Gardner, SE cor. NE, Section 5-22-12e, is a rig. T. K. Simmons' No. 5 Holderman, NW cor. NE NE, Section 9-22-12e, is a rig.

Lyon County New Work

Super-Six's No. 3 Rossillion, SE cor. SW SE, Section 24-21-10e, is drilling at 1,000 feet. Chris Sheedy and others' No. 12, SE cor. NW SW, Section 31-21-10e, is spudding. Landon & Phillips Petroleum Co.'s No. 1 Hind, NW cor. SW, Section 30-21-12e, is drilling at 1,100 feet.

Lyon County Completions

Transcontinental Oil Co.'s No. 8 Atyec, NE cor. NW SW, Section 30-21-10e, got the sand at 2,234-90 feet. Shot with 140 quarts and made 75 bbls. Connel Oil and others' No. 1 G. W. Lewis, SW cor. SW, Section 4-20-11e, dry and abandoned at 2,127 feet. The same operators have a dry hole at 2,034 feet in No. 1 F. B. Baxter, NE cor. SW, Section 22-20-12e.

Rice County Completions

Prairie Oil & Gas Co.'s No. 1 Wood, SE cor. SW NE, Section 34-20-6w, dry and abandoned at 3,813 feet.

Marion County New Work

Younker & Propp's No. 2 F. Propp, SW cor. NW SW, Section 8-19-4e, is spudding.

Chase County New Work

Watchorn Oil & Gas Co.'s No. 1 Ed White, NW cor. SE, Section 3-18-9e, is spudding.

Russell County New Work

Mid-West's No. 2 Booth, SW cor. SE NW. Section 32-11-15w, is rigging up. In the same section, Snowden & McSweeney's No. 4 Both, NW cor. NE SW, is spudding.

GULF COAST FIELDS

(Continued from Page 106)

2,400 feet; No. 126 is drilling at 1,750 feet; No. 135 is drilling at 600 feet; No. 136 is a location. Humble Oil & Refining Co.'s No. 22 Guedry is a derrick; No. 23 is drilling deeper at 3,100 feet; No. 1 Bevers, is drilling at 3,050 feet; No. 1 Lynd is drilling at 4,250 feet. Mecom Oil Co.'s No. 9 Taylor is drilling at 1,850 feet. Empire Gas & Fuel Co.'s No. 20 Barngrover is a derrick; No. 21 is drilling at 1,200 feet. The Texas Company's No. 1 Hannah is drilling at 2,950 feet. Gulf Production Co.'s No. 18 Scarborough is drilling at 3,100 feet; No. 70 Phoenix is drilling at 2,500 feet; No. 71 is drilling at 2,800 feet; No. 72 is a location; No. 18 will deepen; No. 18 David Hannah fee is drilling at 3,650 feet; No. 10 W. L. Thomas fee is drilling at 1,350 feet. Monarch Oil & Refining Co.'s No. 4 Harrison is drilling at 2,500 feet.

Orange and Other Pools

In the Orange Pool, the Gulf Production Co.'s No. 6 Winifree is drilling at 3,970 feet. No. 6 Peveto is at 3,180 feet. No. 1 McGuire will be deepened. A location has been made for No. 24 Hager fee. Humble Oil & Refining Co.'s No. 27-B Chesson is at 2,170 feet. No. 4 Winifree is at 2,565 feet. Rex Petroleum Co.'s No. 2 Carbello is deepening at 3,670 feet, and No. 10 is drilling at 2,560 feet. Texhoma Oil Co.'s No. 9 Chesson is at 3,570 feet. Supreme Oil Co.'s No. 1 Jackson is at 4,035 feet. Peer Oil Co.'s No. 1 Mecom is working over at 3,280 feet. Tillery Oil Co.'s No. 2 Cow Bayou is deepening at 3,990 feet. The following holes will be deepened: Brownie Babbittee Oil Co.'s No. 4 McLean; Sun Oil Co.'s No. 2 Brown; and Rycade Petroleum Corp.'s No. 1-B Cow Bayou.

At Goose Creek, the Gulf Production Co.'s No. 25 Smith is at 2,455 feet. No. 7 Wright is around 4,730 feet. No. 6 Hirsch is at 3,515 feet, and No. 34 Beaumont is around 2,455 feet. No. 10 State land will be deepened. Humble Oil & Refining Co.'s No. 12 Peninsula is around 3,610 feet. No. 10 will be worked over, as will No. 17. The Southern Exploration Co.'s No. 7 Freeman, in the bay, is drilling at 2,270 feet. The M. & B. Oil Co.'s No. 4 Scorrgea, northeast of production, is below 4,500 feet.

The Gulf Co. is drilling No. 31 Davis at Big Creek. The Rycade Petroleum Corp. is drilling No. 8 Wisdom and Nos. 8 and 9 Nash Dome on the line of Brazoria and Fort Bend Counties, and the Gulf Production Co.'s No. 8 Moore, at Orchard, northwest of Rosenburg, Fort Bend County.

South Louisiana

In the Vinton Pool, the Gulf Refining Co.'s No. 2-A Gray is drilling around 1,770 feet, and No. 5 F. H. Gray is at 1,155 feet. No. 42 Vincent is around 3,400 feet. The Texas Company's No. 2-C Gray is at 1,190 feet. The Vinton Petroleum Co.'s No. 21 Rescue is at 2,177 feet. No. 17 Vincent is deepening at 2,100 feet. Supreme Oil Co.'s No. 2 Gray is at 2,145 feet and deepening. Marrs McLean's No. 11 Gray is below 2,000 feet. Vinton Oil Syndicate's No. 2 Johnson is idle at 2,925 feet.

The Texas Company's No. 1 Rayne is at 870 feet. Coastal Fuel Oil Co.'s No. 92 fee is drilling around 1,190 feet. R. H. Hines' No. 3 Martin is at 1,670 feet. Jennings Petroleum Co.'s No. 6 Heywood is rigging to work over.

In the Lockport district, the Vacuum-Gulf's joint No. 8 Miller is drilling at 4,080 feet. No. 10 Miller is at 4,235 feet. No. 4 Lock-Moore is at 5,475 feet. No. 3 Bordages is at 3,415 feet. No. 1 Farquhar is deepening at 2,166 feet. A location has been made for No. 1 Bayou D' Inde.

In the Edgerly Pool, the Rex Oil Co.'s No. 3 Hunter is drilling below 3,200 feet. C. M. Crotty's No. 14 Lilliard is rigging to drill.

Rockdale-Minerva

In the shallow sand section of Milam County, the Rockdale Oil Co. is drilling No. 5 Hamilton, the Hedge Oil Co.'s No. 1 Phillips.

The Atlantic Oil Producing Co. started No. 1 Koehler in the deep sand area of the Humble Pool. Woods & Bennett's No. 7 Bender is drilling, as is the H. & W. No. 3 Bailey, and McDonough and others' No. 3 Bender.

CHICAGO MARKET ACTIVE PRICES TREND UPWARD

(Continued from Page 110)

ply the customer's requirements at prices ranging from 5 to 5½ cents for amber distillate of a 37-40 gravity and a flash of not under 180 degrees and at 6 to 6½ cents for prime white distillate 39 to 41 gravity and a flash of 160 degrees. Other refiners are simply offering and accepting contracts for their customers' requirements within certain limits at the market, date of delivery. There are as many kinds of contracts offered as there are varieties of distillate and these range from a 35-37 to a 40-41, the former amber in color and the latter prime white. There has been some buying and several jobbers have taken in cars for delivery at once and undoubtedly have accumulated some supplies. The market for a good 38-40 straw distillate is today 5 cents and better and a 36-38 amber or cherry distillate 4½ cents, or an eighth-cent higher.

Gas Oil Demand Good

The demand for gas oil continues active and as the buyers come from several sources the market seems well supported. Jobbers are buying for their winter supply and so are the industrial users. One of the Iowa gas companies operating several plants is stated to have taken in 150 cars of 30-32 gas oil meeting the gas makers' specifications at a price of 3¾ cents and already its purchase shows a profit. The gas companies are buying with freedom. They want a price but they have come around to the point where they will buy at the market if they have to. The jobbers are buying for storage and they want the straw gas oil which commands some premium. There is little straight run gas oil available but here the demand is not so large. It is being cracked by refiners and what is to be had here is the second run or cracked gas oil. Dark gas oil is held for 4¼ cents and straw at 4½ cents as a rule. So long as refiners continue to crack gas oil the supply will be less than it would be with the present crude runs and when they cease to crack as much as at present, the industrial users including the gas companies and the jobbers will want added quantities, for winter light and heat.

Fuel Oil Stronger

Fuel oil has been much strengthened by the numerous inquiries for contracts over periods of more than 90 days. Some of them for the year. There has been more than the routine spot business as there is a marked tendency on the part of the industrial users to add to their storage. Some are telling their oil man to fill their tanks while others are ordering quantities in excess of their actual requirements. There are some industries that are not booking the amount of business that they require to assure them an active fall season and these are not ordering for future requirements but they are in the decided minority and most industries are preparing for a good fall and winter. There is very little talk here

of crude declines, and the buyers are ceasing to urge this as an immediate reason for lower prices. They would like to buy on the basis of a percentage of the crude costs as they feel that crude prices will not advance any if they do anything they will decline. Some business is booked right along on the basis of cost of crude or taking recognition of advances or declines in oil but refiners apparently have the same thought and they are in many instances either refusing to sell except on the basis of present values for reasonably prompt deliveries or for brief periods or else they want a flat price for the life of the contract in which case they profit by any declines in crude. Smackover fuel is very strong right now and oil men from that field assert that they are selling more than they are producing and that prices will surely advance One of the distributing companies here is stated to have bought 600 cars for delivery over the fall and winter and although the concern has denied this to some who wanted to sell them it is generally believed to be true.

There has been a limited but active demand for the grades of refinery fuel oil above 24-26 and it has been almost impossible to secure any of this oil which is in the gas oil class and wanted by both distributors for furnace oil and by refiners. The natural tendency of the higher prices asked of consumers for distillate this season will be to increase the use of the heavier oils which can be used in several of the most popular makes of oil burners. As a rule quotations made to buyers in this city range from 2½ to 5 cents a barrel higher than a week ago. It is pointed out that the increase is in a way greater than this as many who buy a 24-26 oil for example in their specifications are being furnished with a 20-24, in most cases with the knowledge of the buyer and on the assurance of the seller that the oil supplied will operate successfully in the plant. There seems little doubt that present prices will be held and if held for another 30 days when the real consumption will be larger and increasing from week to week, that a strong market will result. There is no present evidence of any real desire to reduce stocks by concessions to buyers on the part of any important source of supply for fuel oil.

Large Lub Consumption

Lubricating oils are strong and the reason is that the actual consumption is large and the supply limited. Some of the refiners are in the market for supplies as their own output is insufficient for their requirements. Neutrals are wanted badly by some refiners and the demand for the Pennsylvania grades is so strong that eastern refiners are stated to be sold way ahead. One Pennsylvania refiner commented on the low prices at which a certain western refiner was selling his product, yet this refiner is well above the average market for fine grade western stocks. Bright stocks are also wanted and in fact there seems to be no real weak point in the list. This applies more particularly to Oklahoma oils. There have been some offerings of Texas and Gulf oils but not in large quantities.

Wax is also strong and the demand has been active in this market during the week for the product of well known producers. The large demand for gasoline argues that there is a correspondingly great consumption of motor oils and a further evidence is the orders received from jobbers and compounders who supply motor oils chiefly. The industrial demand is only fair according to distributors and the export movement light at present as reported here.

No Tankwagon Changes

There have been no general changes in tankwagon quotations over the territory of the Standard Oil Co. of Indiana during the week and in fact the only real change reported was in Oklahoma where the advances were local and of the nature of a return to normal as reported here. In the Boston district there was some adjustment of service station prices to an equal margin over the territory affected. There has been some price cutting in several localities but the larger companies have as a rule ignored these reductions and held their own station prices at normal. In Minneapolis the cut was made by a jobber with one or two pumps and it was thought foolish to reduce the entire structure over the city and surrounding territory because of the small amount of business that he could do, especially as the cut was so deep that there could be nothing but a loss in selling at the price named. In most of the recent cases of price cutting the reductions have been made by small concerns whose only ability to compete with others is in the locality comes from low costs to operate. In some cases the outfit consists of a bulk station on a siding, one or two trucks and a gasoline pump. The entire labor is supplied by the family so that there is very little overhead. This is a hard combination to beat but fortunately it is of limited capacity.

The local market for furnace oils is being worked for contracts and there are several contracts from which to choose. The Standard and Sinclair are making contracts to supply the needs of a customer, the price to be that of the tankwagon scale of the seller on the date of delivery. The Roxana has made contracts on the basis of the present scale but no change during the season. Shaffer Oil & Refining is making contracts which include service as well as oil. The contracts stipulates that the expert of the oil company will call on their customers at least once each month, inspect the plant and make simple adjustments and suggestions as to increased efficiency. Contracts for the company's distillate call for a price of 11 cents for the average dumps of 150 to 399 gallons with a provision for changes when the tankwagon scale is changed but not for more than 2 cents up or down. On the lower grades such as gas oil the change is 1 cent up or down with the tankwagon price. The price for distillate in this contract is 1 cent above the present scale of the larger companies but the latter's product is around a 37-40 amber while the Shaffer contract calls for a 40-41 prime white with a lower flash that makes it available to those oil burners that require this grade. The smaller distributors are making all sorts of contracts with their customers but the prices are 2 to 3 cents higher than at the opening of the season last year, when the price was started at 7½ cents and this was later cut to many users. However, the users of oil burners seem to be willing to pay the price, at least so far there have been no real objections. Most home owners have been accustomed to regular increases each year in their heating costs by the steady advances in the cost of coal.

CAN 40 BILLION BARRELS OF OIL BE RECOVERED?

(Continued from Page 23)

would hesitate to appropriate $100,000 or $200,000 to drill a wildcat well, if the geological reports were favorable.

The cost of determining the feasibility of the application of this new idea to all the fields of the United States would be but a fraction of what is lost by any one of the larger companies in unsuccessful tests each year. The data are available, both in the offices of the producing companies and in the Bureau of Mines and the Geological Survey. All that remains to be done is to assemble it, and subject it to scientific investigation.

Industry Partially Prepared

The industry today is at least partially prepared for the co-operative effort needed. The old-time operator felt that the logs of his wells and his knowledge of sands were his personal secrets. The idea that he could be compelled to give public notice of his intention to drill a well, and its location was to him impossible. Now the proposed locations of wells are public records, and his well logs and sand records are handed about among geologists as freely as Government pamphlets. Everything is done in the open. The spirit is abroad that the accumulating store of information is the common property of the industry. The producer is no longer an isolated individual; he is a member of a vast fraternity that sees individual prosperity in a common success.

But the public mind still looks on the oil industry as the plaything of a few great monopolies. Once it was John D. Rockefeller and John Archbold. Now it is Jones and Teagle and Beaty and Stewart. But the hundreds of thousands of wells have many owners. And no one individual or no one company owns all of any great fields. No oil company owns any such source of supply as the Steel Corporation owns the iron ore and coal of the country. The great basic supply of the oil industry is bought from day to day in the open market. This fact will present many difficult problems in working out a process of recovery for the common working of a great field; but community interest will produce community of effort. It will only require demonstration to work out a solution of the problem. Possibly some of the required agreements could be shown to be in contravention of the present antitrust laws; but the co-operation of the Government rather than its antagonism can surely be counted on in such a vast enterprise. If the grouping of the railroad systems can be worked out legally the legal problems that may be met in community flooding need not dismay us.

Value Cannot Be Estimated

The value of the recoverable oil cannot be estimated in dollars; nor possibly in its relation to the future prosperity and safety of the country. For as the need for petroleum products widens, the efficiency of the industry increases. The advance may be indicated from the fact that in 1916 a barrel of crude yielded 20 per cent gasoline, 14 per cent kerosene, 5 per cent lubricants, 45 per cent fuel oil. In 1925 a barrel of crude yielded 35 per cent gasoline, 8 per cent kerosene, 4¼ per cent lubricants, 49¼ per cent fuel oil. While because of market conditions, the percentage of gasoline, kerosene or fuel oil may be varied, the impressive thing is that there has been an increase of recovery of the four major products from 85 per cent to 96½ per cent of the entire content of a barrel of crude. And the end is not yet. The remainder, wax, distillate, etc., is not so commercially valuable as the four major products. So with refining costs constantly lessening, a barrel of oil is becoming commercially more and more valuable.

The improvement in the industry has come largely from the earnings that have been put back into the business, instead of being distributed in excessive dividends although in many cases the stockholders have participated by stock dividends, which merely represent accumulated earnings carried to capital account.

Activity of Demagogic Politicians

The profits have been used not only to perfect processes and for scientific research, but to carry the industry over depressions such as occurred in 1923 by the flood of oil due to the unexpected opening of eight major fields. The flood of oil which could not be held back demoralized the whole price structure, and the entire industry except the few wells that caused the damage, operated at a loss. If the demoralized condition had continued for any length of time, the old small wells would have been plugged and a permanent source of supply lost forever. But no major pools are now in sight, and it appears that the old small wells may for a time operate at a profit.

But as soon as the lean years appear to be passing, the attacks begin; for there seems to be a school of politicians that believe that profits are immoral. That continuing profits means a continuing advance in the industry seems to be immaterial. Yet it must be admitted that the production, refining and distribution of petroleum has done as much, if not more, to place the United States in its commanding position today, as any other one factor.

And now, if Doctor Nutting successfully demonstrates that the industry has a permanent reserve of 40,000,000,000 bbls. that may be recovered, we may expect a demand that it be confiscated, or that regulation, in the guise of conservation, shall so hamper the operation that much shall be lost. It will probably be violently denied that the interests of the country are safer if the oil business is left in the hands of its owners than if it passes into the hands of the politicians; yet its history demonstrates this fact, and the experience of the country with the governmental operation of the railroads should make Congress wary of its future tampering with a great business.

Benefit of Co-operation and Research

The tremendous advance of the past 10 years seems but to have been but a preparation for the expansion ahead. The willingness of the industry to follow the advice of scientific research; the habit of assembling and preserving geological data, and above all, the spirit of co-operation in all branches of the industry, are the foundation stone upon which the future must be built.

For if the buried reserves of petroleum are to be understood, it will take all the learning of the geologists, and if the size and character of the fields are to be properly visualized, it will take all the data of all the corporations and of the Government, and if the deposits are to be recovered, it will take every ounce of co-operation of all the producers of every field in the United States.

The working out of the survey may not be so difficult. But putting into operation of the plan which Doctor Nutting's discovery seems to make possible, will tax the ability of the leaders in the business. For no one producer owns any one field. There will have to be agreements, to be based on computations that can only be made after exhaustive study, which can only estimate the proportionate recovery from the various wells in a field. But, 15 years ago no one would have predicted that the highly individualistic business of producing oil would reach by this time even the co-operative spirit that has already been attained. In the face of the possibility of recovering the last barrel of oil, the attention of the industry should not now be focused on the difficulties ahead; they can be solved. The possibilities should be visualized, and the potentialities for concerted effort studied.

What It Means for the Future

If we are able to look into the ground, and see with the eye of science, not a dream but a fact; if we are able to assure the world that the petroleum supplies of the next 50 years can be counted on in a steady stream, the oil business will be stabilized in a way not before deemed possible. And oil securities will be the standard of the financial world.

And if the Nutting process is patented, there may be worked out a system of governmental control that will aid and not hamper business. For the flooding will then have to be by permission of the owner of the patent, and individual ideas will have to give way.

The oil business may be at the threshold of its greatest days. It owes it to itself and to the nation to begin at once the most intensive study of this new discovery, and the widest survey of its possibilities.

SHREVEPORT MARKET STEADY, DEMAND GOOD

SHREVEPORT, La., July 31.—With no indication of weakening the Shreveport refined market remained steady the past seven days and uneventful.

A good demand for U. S. Motor grade gasoline from all sections of the trade territory made gasoline firm. At the end of the week inquiries were still coming in good volume. Neutrals showed a little more strength.

While strong and scarce, kerosene showed a tendency to weakness. Fuel oil remained strong, although concessions were made in isolated instances. Gas oil, another scarce product, was much in demand and distillate was strong.

In Arkansas refiners rode on the same wave of propserity with all products firm. Kerosene was stronger in Arkansas and was scarce. Navy gasoline was strong and moved steadily. Fuel oil remained unchanged and gas oils and distillates were strong.

XUM

ANALYSES MADE OF PANHANDLE CRUDE OIL

(Continued from Page 24)

664-684	20	70	35.0
684-692	5	75	35.7

	Per Cent	A.P.I.
Gasoline	8.7	51.6
Kerosene	15.4	41.0
Gas oil	50.5	35.1
Fuel oil	24.4	19.0
Loss	1.0	

Hydrogen sulphide was given off during distillation. Cracking took place as shown by gravity.

SAMPLE NO. 11
Lab. No. 7-12-26

Skelly Oil Co.'s No. 1 Whittenburg, Surplus Land, located in the NW cor. of Surplus Land, lying directly south of Section 62, Block 46, H. & T. C. Ry., Hutchinson County, Texas. This well has been shot. Sample taken from flow tank. Elevation, 2,978 feet; total depth, 2,212 feet.

Crude gravity—36.4.
Color—brownish green.
Odor—gasoline.
B.s.—0.1 per cent.
Pour—. .degrees Fahrenheit.
Sulphur—0.672 per cent.

Dry Distillation

Temp. °F.	Per Cent Cut	Sum Per Cent	A.P.I. Cut
Up to 240	5	5	70.3
240-320	10	15	57.6
320-364	5	20	53.1
364-614	30	50	37.3
614-716	25	75	34.8
716-704	5	80	35.2

	Per Cent	A.P.I.
Gasoline	29.0	55.8
Kerosene	7.9	41.4
Gas oil	41.5	35.9
Fuel oil	20.0	21.1
Loss	1.6	

Hydrogen sulphide was given off during the distillation. Cracking took place as shown by the drop in temperature and increase in stream gravity.

SAMPLE NO. 13
Lab. No. 7-13-26

The Texas Company's No. 1 Brown, located in Section 137, Block 3, I. & G. N., Gray County, Texas. Pay, 3,098-3,255 feet. Sample drawn from bottom of tank.

Crude gravity—38.8.
Color—dark greenish brown.
Odor—gasoline.
B.s.—0.3 per cent.
Pour—55 degrees Fahrenheit.

Dry Distillation

Temp. °F.	Per Cent Cut	Sum Per Cent	A.P.I. Cut
Up to 252	5	5	69.6
252-286	10	15	57.8
286-308	5	20	55.7
308-548	30	50	40.0
548-686	30	80	36.0
686-696	5	85	35.2

	Per Cent	A.P.I.
Gasoline	36.7	55.5
Kerosene	11.7	41.4
Gas oil	35.6	36.0
Fuel oil	14.5	21.7
Loss	1.6	

Hydrogen sulphide was given off during distillation, also sulphur dioxide. Considerable cracking took place.

SAMPLE NO. 14
Lab. No. 7-14-26

Douglass Oil Co.'s No. 1 J. A. Whittenburg, located center SW SW, Section 15, Block XO2, Hutchinson County, Texas. Elevation, 3,132 feet; top of lime, 2,280 feet; total depth, 3,093 feet.

Crude gravity—37.7.
Color—dark greenish brown.
Odor—hydrogen sulphide and gasoline.
B.s.—0.2 per cent.
Pour—66 degrees Fahrenheit.

Dry Distillation

Temp. °F.	Per Cent Cut	Sum Per Cent	A.P.I. Cut
Up to 208	5	5	78.2
208-290	10	15	59.6
290-334	5	20	54.9
334-602	30	50	37.6
602-660	25	75	36.1
660-670	5	80	35.7

	Per Cent	A.P.I.
Gasoline	30.4	58.8
Kerosene	13.6	41.0
Gas oil	35.5	35.5
Fuel oil	19.0	22.3
Loss	1.5	

Hydrogen sulphide was given off during distillation, also sulphur dioxide. Considerable cracking took place.

Additional Sample

From the Midwest Exploration Co.'s Laycock No. 4, located in the SE of the NW, Section 9, Block 27. Well is pumping around 15 bbls. per day. Formation granite wash 2,288 to 2,300 feet. Has never been shot.

Crude gravity—37.2.
Color—Green brown.
Odor—Gasoline.
B. s.—.7 per cent.
Pour—B. Z.

DRY DISTILLATION

Temp. F.—	Pct. Cut	I.B.P.	Sum Pct.	A.P.I. Cut
134	Up to 5		5	....
196-244		5	10	75.1
244-274		5	15	65.0
274-304		5	20	59.6
304-342		5	25	55.0
342-385		5	30	52.5
385-430		5	35	49.1
430-475		5	40	45.7
475-514		5	45	43.0
514-558		5	50	40.3
558-590		5	55	37.5
590-617		5	60	36.1
617-640		5	65	35.3
640-697		5	70	34.5
697-708		5	75	33.7
708-718		5	80	31.0

	Pct.	A.P.I.
Gasoline	36.8	57.0
Kerosene	8.3	41.0
Gas oil	34.6	34.2
Fuel Oil	18.8	18.9
Loss	1.5	

Note—This crude sample seems to be very much different from most of the other samples in that it does not show the wax that the other samples did, as indicated by the pour test. Hydrogen sulphide was not given off as in case of the other samples 0.5 per cent of water was given off during distillation. This crude also gave a higher percentage of gasoline as compered with the others of the same gravities.

Distillations With Steam

It was thought that a selection of the four crudes having gravities 33.3, 36 0, 36.4 and 40.0 would, when run with steam, give data equally applicatble to the other samples which have, according to other tests, similar properties. The results of the fire and steam distillations are next tabulated.

SAMPLE NO. 3
Lab. No. 7-4-26

Skelly Oil Co.'s No. 1 Cunningham, on the Johnson farm, located in the SW of Section 4, Block B-4, Hutchinson County, Texas. Swabbing; total depth, 2,976 feet. Sample taken from flow tank.

Gravity of crude—40.0.
Color—dark green.
Odor—hydrogen sulphide and gasoline.
B.s.—0.1 per cent.
Pour—60 degrees Fahrenheit.
Sulphur—0.675 per cent.

Steam Distillation

Temp. °F.	Per Cent Cut	Sum Per Cent	A.P.I. Cut
Up to 176	5	5	83.1
176-264	10	15	64.1
264-290	5	20	58.1
290-502	30	50	37.4
502-590	35	85	34.5
590-600	5	90	29.1

	Per Cent	A.P.I.
Gasoline	32.5	59.8
Kerosene	11.0	41.0
Gas oil	9.6	36.3
Lubricating distillate	35.0	33.9
Fuel oil	21.9	2.0
Loss	2.0	

Hydrogen sulphide was noted during distillation. Even with this steam distillation we were unable to prevent cracking as shown by the stream gravities. A large percentage of lubricating distillate is shown, but it should be noted that the gravities are high and the viscosity is low for a lubricating distillate, and therefore would not give as high a yield of finished oil as would a lubricating distillate of higher viscosity.

SAMPLE NO. 11
Lab. No. 7-12-26

Skelly Oil Co.'s No. 1 Whittenburg Surplus Land, located in the NW cor. of Surplus Land, lying directly south of Section 62, Block 46, H. & T. C. Ry., Hutchinson County, Texas. This well has been shot. Sample taken from flow tank. Elevation, 2,978 feet; total depth, 2,212 feet.

Crude gravity—36.4.
Color—brown green.
Odor—gasoline.
B.s.—0.1 per cent.
Pour—70 degrees Fahrenheit.
Sulphur—0.672 per cent.

Steam Distillation

Temp. °F.	Per Cent Cut	Sum Per Cent	A.P.I. Cut
Up to 250	5	5	69.6
250-318	10	15	56.6
318-322	5	20	53.0
322-538	30	50	36.9
538-540	30	80	30.9
540-550	5	85	29.1

	Per Cent	A.P.I.
Gasoline	26.0	55.5
Kerosene	12.8	41.0
Gas oil	16.2	36.1
Lubricating distillate	30.0	34.2
Fuel oil	13.0	19.4
Loss	2.0	

Hydrogen sulphide was noted during distillation. Even with this steam distillation we were unable to prevent cracking as shown by the stream gravity.

Lab. No. 3-6-26

Dixon Creek's No. 3 Smith, located in Section 1, Block 9, Hutchinson County, Texas.

Gravity of crude—36.0.
Color—brownish green.
Odor—hydrogen sulphide and gasoline.
B.s.—0.4 per cent.
Pour—65 degrees Fahrenheit.
Sulphur—0.604 per cent.

Steam Distillation

Temp. °F.	Per Cent Cut	Sum Per Cent	A.P.I. Cut
Up to 280	5	5	67.6
280-320	10	15	54.5
320-320	5	20	51.8
320-488	30	50	35.8
488-550	15	65	31.0
550-550	5	70	30.0

	Per Cent	A.P.I.
Gasoline	27.5	55.5
Kerosene	12.1	41.0
Gas oil	10.3	36.8
Lubricating distillate	20.0	32.8
Fuel oil	27.9	22.2
Loss	1.1	

Lab. No. 2-12-26

No. 2 Whittington, located in NE cor. Section 9, H. & G. N. Ry., Wheeler County, Texas.

Gravity of crude—33.3
Color—dark brownish green.
Odor—gasoline.
Water—2.4 per cent.
Pour—65 degrees Fahrenheit.
Sulphur—0.582 per cent.

Steam Distillation

Temp. °F.	Per Cent Cut	Sum Per Cent	A.P.I. Cut
Up to 200	5	5	63.6
200-325	10	15	51.8
325-332	5	20	49.6
332-450	30	50	35.7
450-560	25	75	29.3
560-540	3	78	26.5

	Per Cent	A.P.I.
Gasoline	32.0	52.2
Kerosene	6.5	40.9
Gas oil	16.5	35.6
Lubricating distillate	20.1	31.4
Fuel oil	18.0	12.2
Slop wax	3.0	26.5
Water	2.4	
Loss	1.6	

Additional information showing the temperatures of the vapors during the distillation with steam and the corresponding gravities of the streams are given in the next two tables.

Steam Distillation Temperatures

Temperatures °F. at each 5 per cent over. Sample No.	7-4-26	7-12-26	2-12-26	3-6-26
Per Cent	Temperatures			
I.B.P.	98	114	188	190
5	176	250	200	290
10	226	292	292	310
15	264	318	326	320
20	290	322	332	320
25	314	375	350	345
30	366	416	330	386
35	394	470	356	420
40	416	494	396	446
45	475	502	418	468
50	502	538	462	488
55	528	584	492	518
60	547	660	516	548
65	556	570	524	550
70	572	520	590	550
75	582	500	540@78	
80	590	540		
85	590	550		
90	600			
95				

Cracking took place in all of these analyses. Hydrogen sulphide was also given off in all cases.

Steam Distillation Gravities

Gravities A.P.I. at each 5 per cent fraction. Per Cent	Gravities A.P.I.			
Sample No.	7-4-26	7-12-26	2-12-26	3-6-26
5	83.1	69.6	63.6	67.6
10	72.0	60.9	56.6	58.6
15	64.1	56.6	51.8	54.5
20	58.1	53.0	49.6	51.8
25	53.7	49.2	47.0	48.6
30	50.1	45.5	44.7	44.6
35	44.5	42.8	42.5	41.7
40	42.4	40.1	41.0	39.4
45	39.6	38.2	37.7	37.5
50	37.4	36.9	35.7	35.8
55	35.9	35.9	33.9	34.6
60	35.4	35.6	31.3	32.4
65	34.6	35.7	31.0	31.0
70	34.4	27.5	31.6	30.0
75	34.7	33.9	39.3	
80	34.8	30.9	26.5@78	
85	34.5	29.1		
90	29.1			
95				

In the following two tables will be found summaries showing the gravities and the temperatures of each 5 per cent fraction, as obtained in the distillation made without steam.

DRY DISTILLATION
Gravities A.P.I. of each 5 per cent fraction.

Per Cent	Sample 7-2-26	7-3-26	7-4-26	7-5-26	7-6-26	7-7-26	7-8-26	7-9-26	7-10-26	7-11-26	7-12-26	7-13-26	7-14-26
5	81.0	61.1	85.3	68.4	69.2	80.8	77.3	75.0	80.3	51.5	70.3	69.6	78.2
10	69.5	56.4	73.1	59.5	62.1	68.5	63.9	64.2	70.9	44.9	61.3	61.6	65.8
15	63.8	51.1	64.8	56.0	57.3	61.5	57.1	59.6	63.6	42.3	57.6	57.8	59.6
20	58.2	46.8	59.0	51.9	54.1	57.8	52.6	54.3	58.5	40.5	53.1	55.7	54.9
25	53.9	42.1	54.3	47.6	49.4	54.2	48.2	49.3	54.7	38.7	48.9	53.0	50.4
30	49.7	40.0	49.8	44.5	45.3	50.2	44.7	44.4	50.1	37.6	45.1	49.9	47.6
35	45.6	38.0	45.6	41.9	41.8	46.1	41.7	40.5	45.5	37.2	42.1	46.7	42.8
40	42.1	37.1	42.5	39.9	39.4	42.6	39.7	38.7	42.7	36.8	39.6	44.2	40.6
45	39.5	36.4	42.0	37.8	37.7	40.3	38.0	36.7	40.0	37.1	38.5	41.8	38.8
50	37.7	36.7	39.1	37.4	37.2	38.6	37.7	36.0	37.8	36.7	37.3	40.0	37.6
55	36.7	36.0	37.6	35.9	37.7	37.7	38.2	34.7	37.1	35.9	36.1	38.2	37.2
60	35.3	35.1	36.5	35.6	36.9	37.4	36.2	34.1	36.1	34.8	35.5	37.5	37.8
65	34.5	34.5	36.1	35.5	35.4	36.7	35.4	32.8	36.2	35.6	35.1	37.2	36.7
70	34.6	34.3	36.2	35.4	33.3	35.6	34.8	32.9	37.2	35.0	35.0	36.7	36.4
75	37.0	35.0	34.4	35.0	32.9	35.2	33.3	32.2	37.4	35.7	34.8	36.0	36.1
80	....	....	....	34.8	....	34.3	33.2	....	37.0	....	35.2	36.0	35.7
85	....	....	....	....	....	33.8	....	....	....	....	....	35.2	....
90	....	....	....	....	....	33.1	....	....	....	....	....	....	....

DRY DISTILLATION—1,000 CUBIC CENTIMETERS
Temperatures °F. at each 5 per cent over.

Per Cent	Sample 7-2-26	7-3-26	7-4-26	7-5-26	7-6-26	7-7-26	7-8-26	7-9-26	7-10-26	7-11-26	7-12-26	7-13-26	7-14-26
I.B.P.	117	154	106	129	137	108	105	110	114	218	116	126	112
5	188	296	168	242	212	174	184	188	184	420	240	252	290
10	228	342	216	283	274	230	248	248	228	464	280	284	353
15	264	394	250	324	316	272	308	300	260	496	320	236	290
20	304	452	294	367	360	301	358	354	302	546	364	308	334
25	350	502	342	418	410	344	416	420	348	568	411	338	388
30	408	549	400	462	468	390	476	472	407	594	464	480	440
35	468	580	462	508	521	444	528	512	458	608	512	418	490
40	519	598	508	562	552	508	566	552	508	638	556	460	530
45	572	630	558	600	580	554	599	602	556	654	580	504	570
50	606	626	591	624	601	574	606	620	590	664	614	548	602
55	648	668	610	662	672	600	626	664	620	670	666	584	614
60	683	688	666	680	660	630	634	700	642	680	674	608	644
65	705	692	690	684	682	658	654	712	658	680	686	638	660
70	660	688	686	702	694	678	684	718	650	684	712	650	650
75	668	686	736	708	702	690	680	726	700	692	716	680	660
80	....	....	....	712	....	704	682	....	670	....	704	686	670
85	Remainder—fuel oil.			...	...	716	...	...	...	...	...	696	...

Note: Cracking took place in all these sample analyses. There was also liberation of hydrogen sulphide.

SUMMARY OF ANALYSES OF AMARILLO, TEXAS, CRUDES—DRY DISTILLATION

Sample No.	Gravity A.P.I.	Pour	Color	Odor	B.s.	Sulphur	Gasoline A.P.I.	Gasoline Pct.	Gasoline I.B.P.	Gasoline E.P.	Kerosene A.P.I.	Kerosene Pct.	Gas Oil A.P.I.	Gas Oil Pct.	Fuel Oil A.P.I.	Fuel Oil Pct.	Loss Pour
7- 2-26	37.9	55	Green brown	G*	0.8	.535	59.4	32.6	124	432	41.4	11.0	34.7	31.0	20.0	23.4	65
7- 3-26	32.6	70	Green brown	G	0.1	.724	53.9	19.4	172	449	41.4	7.5	35.7	47.9	20.5	24.0	75
7- 4-26	40.0	60	Dark green	G&H$_2$S	0.1	.675	60.0	33 6	118	419	41.7	6.2	35.9	33.8	22.4	24.4	80
7- 5-26	36.3	70	Green brown	G&H$_2$S	0.1	.675	54.9	27.2	166	438	41.3	6.9	35.5	42.9	21.4	18.2	..
7- 6-26	35.2	65	Green brown	G&H$_2$S	0.3	.625	57.1	28.5	144	440	41.1	11.0	35.3	34.3	17.1	24.7	75
7- 7-26	38.9	65	Dark green	G&H$_2$S	0.1	.646	58.6	34.9	120	434	41.1	10.7	35.2	44.2	9.3	8.9	..
7- 8-26	36.1†	65	Dark green	G	1.7	.342	57.7	28.0	130	427	41.0	12.2	34.8	38.2	18.1	20.0	80
7- 9-26	35.9	70	Dark green	G&H$_2$S	0.1	.563	58.1	27 0	136	433	41.1	7.3	34.6	40.5	18.6	24.0	..
7-10-26	39.6	55	Dark green	G	0.1	.620	59.7	34.8	128	431	40.9	11.4	36.3	33.3	18.8	18.3	..
7-11-26	27.3	85	Brown green	G	0.4	.000	51.5	8.7	....	..	41.0	15.4	35.1	50.5	24.4	24.4	..
7-12-26	36.4	70	Brown green	G	0.1	.672	55.8	29.0	154	435	41.4	7.9	36.9	41.5	21.1	20.0	..
7-13-26	38.8	55	Dark green brown	G	0.3	....	55.5	36.7	148	432	41.4	11.7	36.0	35.6	21.7	14.5	..
7-14-26	37.7	65	Dark green brown	G&H$_2$S	0.2	....	58.8	30.4	124	432	41.0	18.6	35.5	35.5	23.3	19.0	..
3- 6-26	36.0	65	Dark green brown	G&H$_2$S	0.4	.604	55.3	27.5	150	430	41.0	12.1	36.8	10.3	22.2	27.9	95
2-12-26	33.3	65	Dark green brown	G	2.4	.582	52.2	32.0	174	456	40.9	6.5	35.6	16.5	12.3	18.6	75

G*—Gasoline. †5.3 per cent H_2O in oil besides 1.7 per cent b.s. Analysis made on settled sample.

SUMMARY OF STEAM DISTILLATIONS OF AMARILLO CRUDE
Note: All gravities are A.P.I., and cuts are given in percentage.

No.	Lab. No.	Gasoline Gr.	Kerosene Gr.	Gas Oil Gr.	Lub. Dist. Gr.	Fuel Oil Gr.	Loss
3	7- 4-26	59.8	41.0	35.6	33.9	21.9	26.5
11	7-12-26	55.6	41.0	36.1	30.0	34.2	13.0
	3- 6-26	55.3	41.0	36.8	30.4	27.5	15.6
	2-12-26	52.2	40.9	35.6	31.4	18.0	12.3

Discussion

The analyses indicate that the crude from the district is exceptional in that the gasoline content is high when compared with the average oil. The initial boiling point of the gasoline fraction is

somewhat too high but this may be corrected by the use of natural gasoline. The quantity of kerosene may be considered to be normal.

The cracking stock, gas oil and lubricating distillate, varies from 30 to 46 per cent. It may be estimated with some conservatism, that the Amarillo crude may yield as high as 60 to 65 per cent U. S. Motor Grade gasoline if topped with modern equipment and an efficient cracking process is installed.

While the quantity of lubricating stock obtained in these analyses, together with the wax, indicates that there are possibilities for the manufacture of lubricants, it may be a better plan to run for the lighter products and a fuel oil residue. The fuel oil, the material which has been through the cracking process, should have a low cold test after the wax has been cracked. The high cold test of the fuel oil residue from topping, would constitute a serious objection to its use, especially for winter use.

The high quality of the Amarillo crude and a suggestion as to its possible commercial value may be indicated when compared with an analysis of Cushing crude. All gravities are A. P. I.

Analysis of Cushing Crude

Gravity	36.7
Sulphur	0.321 per cent
B.s. and W.	trace
Odor	gasoline-sweet

Steam Distillation

Gasoline	20.0 per cent
Gravity	57 5
Initial	125 F.
Endpoint	430 F.
Naphtha	15.0 per cent
Gravity	48 7
Initial	236 F.
Endpoint	498 F.
Kerosene	17.5 per cent
Gravity	41 0
Flash	166 F.
Gas Oil	5.0 per cent
Gravity	36 1
Flash	245 F.
Lubricating Distillate	20.0 per cent
Gravity	31 1
Flash	290 F.
Cold (pour) test	60 F.
Vis. at 100	64 F.
Paraffin Slop	6 8 per cent
Gravity	25.7
Flash	370 F.
Cold test	84 F.
Vis. at 100	253
Bottoms	14 0 per cent
Gravity	16.0
Flash	475 F.
Cold test	64 F.

Similarities to Cushing

It will be observed that the Cushing crude, according to this analysis, has some properties quite similar to the Amarillo crude. The quantity of the cracking stock in this Cushing crude is 31.8 per cent, that is a total of the gas oil, lubricating distillate and paraffin slop cuts, against the maximum of 46 per cent cracking stock from the Amarillo crude. The quantity of gasoline is within limits so that the two crudes may be placed in the same class.

Our analyses of several of the Amarillo crudes have shown a salt, sodium chloride, content of from 0.3 to 0.4 per cent by weight. These results are based on the clear settled crude and of course, would be appreciably higher on fresh crude containing some water. Some of the salt is evidently held in suspension or in combination with the oil. Emulsified compounds of mineral salts and petroleum are known. This quantity of salt is ample to cause a serious operating problem in the refinery.

The form and quantity of the sulphur is such that original methods will have to be applied for its control.

A study of these analyses, in connection with an appreciation of the conditions in the Panhandle district, should inspire the scientific refiner to study the crude and to solve the many questions that are involved. No rule of thumb methods will accomplish the best results. The district is being developed at a time when science is being more extensively applied and appreciated than at any other period in the history of the industry. The interchange of ideas and the cordial cooperation evidenced on every side may be considered in itself sufficient evidence of enough power and talent to show the world what can be done when a real refining problem comes along. We have done it before and we are firm in our belief that the Amarillo crude will soon be among the best crudes of the world.

CRUDE OIL PRICES

(Continued from Page 119)

Big Muddy	2.25
Mule Creek	1.75
Grass Creek, light	2.40
Grass Creek, heavy	.90
Elk Basin	2.40
Lance Creek	2.40
Rex Lake	1.45
Osage	2.40
Lost Soldier (contract)	1.05
Greybull-Torchlight	2.40
Hamilton Dome	1.35
Lake Basin	2.15
Byron	2 25
Notches	.65
Poison Spider	1.00
Cat Creek (Mont.)	2.40
Sunburst (Mont.) (May 6)	1.05
Florence (Colo.)	1.60
Artesia	1.95
Hogback (N. Mex.)	2.45

Note: Salt Creek, Osage, Cat Creek, Greybull and Hogback posted by Midwest Refining Co., and the remainder by the Ohio Oil Co. Both companies post Grass Creek light and Elk Basin.

(Effective March 8)

EASTERN STATES

Joseph Seep Purchasing Agency

Penna Grade Oil in New York Transit Lines (New York)	$3.40
Bradford District Oil in National Transit Lines (Pennsylvania)	3.40
Penna Grade Oil in National Transit Lines (Pennsylvania)	3.30
Penna Grade Oil in Southwest Pa. Line Lines (West Virginia)	3.30
Penna Grade Oil in Eureka Pipe Line Lines (Pennsylvania)	3.25
Penna Grade Oil in Buckeye Pipe Line Lines (Ohio)	3.05
Cabell Grade Oil in Eureka Pipe Line Lines (West Virginia) (May 17)	2.40
Corning Grade Oil in Buckeye Pipe Line Lines (Ohio) (May 22)	2.55
Somerset Medium Oil in Cumberland Pipe Line Lines (Kentucky) (May 17)	2.50
Somerset Light Oil in Cumberland Pipe Lines (Kentucky) (May 17)	2.65
Ragland Grade Oil in Cumberland Pipe Line Lines (Kentucky) (May 19)	1.25
Gaines (Pennsylvania) (Apr. 27)	2.85
Keister (Pennsylvania) (Feb. 15)	2.30

MIDDLE WESTERN STATES

Ohio Oil Co.

(Effective May 17)

Lima	$2.48
Wooster	2.55
Illinois	2.37
Indiana	2.25
Princeton	2.37
Plymouth	1.90
Waterloo	1.35
*Western Kentucky, 32.9° and below (May 18)	2.10
33° to 35.9° (May 18)	2.20
36° to 38.9° (May 18)	2.30
39° and above (May 18)	2.40
†Cumberland, Barren and Monroe Counties, Ky.	2.65
**Oil in lines of Stoll Oil Refg. Co. in Oil City, Ky.	2.65
**Oil in lines of Stoll Oil Refg. Co. in Tinsley Bottom, Tenn.	2.46
§Oil Springs (Canada) (May 18)	2.95
§Petrolia (Canada) (May 18)	2.88

**Posted by Stoll Oil Refg. Co.
*Posted by Indian Refining Co. †Posted by Paragon Development Co. §Posted by Imperial Oil Co., Ltd.

MEXICO

(Effective May 13)

*Tuxpam light (f.o.b. Mex. ports)	$1.35
§Panuco heavy (f.o.b. Mex. ports)	1.15
Tuxpam (New York)	2.15
Panuco (New York)	1.80

*Plus 32.328c tax. §17.631c tax.

INSTALLATION OF AIR-GAS LIFTS INCREASING

(Continued from Page 21)

fields its use is much more common than air. The difference in the specific gravity of air and gas necessitates that a much greater volume of gas than air be handled to obtain the same results.

Three Classes of Plants

There are three classes of plants used for this work: Portable, semi-portable, and permanent. The size of the compressors used ranges from 225 cubic feet per minute to 550 cubic feet per minute capacity. At present, the principal types of compressors are the Chicago Pneumatic, Ingersoll-Rand, Clark Brothers and Cooper machines. Waukesha gasoline engines have been used to furnish power for compressors of the smaller size, although most of the equipment is built with engines of its own make.

As seen in the accompanying picture, the air-gas machinery is housed in a structure similar to the buildings which house natural gasoline plants. The battery of gauges and recording instruments necessary for the intelligent operation of these machines is usually placed in a section of the building. One company has unified control by an engineer who does nothing else but observe the actions of the charts as they record the production of the wells and the pressure applied. He is quick to detect each variation of fluid lifted, and applies the necessary increase or decrease in pressure to the well. This is probably the first instance where wells are "pumped" from a structure of this character, and it might be termed an application of "boiler-housing." Regardless of the peculiarities of operation, the results of the process seem to warrant its extension.

Costs of Equipment

The costs of several types of equipment have been considered, and a price of $24.50 per cubic foot per minute capacity may be termed average for the installation of an air-gas system. Costs fluctuate, but it is believed that this figure will represent the average cost. The most used size of compressor is the 250 cubic feet per minute machine, and at this figure it will be observed that a cost of $6,125 will be required for the installation of one unit of this size. This price includes all expense connected with the equipment, buildings, fittings, pipes, charts, gauges, and other recording instruments.

Inspection of the fields finds a lease in Tonkawa with the highest number of air-gas units, 19, and figuring a cost of $6,125 per unit, it is found that this company has an investment of $116,375 in the machinery.

The cost of the air-gas system indicates that it is to be used only where the producers feel reasonably sure that a good yield is to be obtained. While its greatest field has been in deep well flowing, the more shallow territories have found it feasible where good bodies of sand and good saturation exist. The Braman Field with production at 2,300 feet, is flowing wells economically with this system, and very recently a unit has been placed on a shallow field in Tulsa County, where the oil was being pumped from a depth of 800 feet. If favorable conditions are presented, the shallow pools may turn to this method.

There have been no opinions voiced as to whether this system will increase the ultimate yield per acre. That phase, and a more detailed record of individual wells will be incorporated in a later story. Although the method makes astounding increases in the present production of leases, there seems to be some doubt as to whether or not it will perform the work of liberating the oil which is contained in the grains of sand.

In conclusion there seems to be one field which the air-gas process may stimulate, and that is the Texas Panhandle. With its very limited gas, and its uniformly low rock pressure, this field would seem ideal for the system. One unit is to be installed in the Panhandle very soon, and its operation will be very interesting. Paraffin seems to be one of the causes of the rapid decline in Panhandle wells, and it is the plan of a company to install one unit and operate it at very high pressure. The application of high pressure is expected to remove the paraffin, and once removed, to prevent its accumulation.

GAS MASK AVAILABLE FOR SULPHUR HAZARD

Considerable trouble has been experienced with hydrogen sulphide in recent drilling operations in the Panhandle Field in Texas. This is a very deadly gas and according to the U. S. Bureau of Mines is poisonous in concentrations of .06 to .08 per cent. It causes temporary blindness in very low concentrations and also results in paralysis of the respiratory organs and death in slightly higher concentrations. It is, therefore, highly essential that adequate protection be provided to all drillers who may come in contact with the gas.

The Mine Safety Appliances Company of Pittsburgh, Pa., has announced the availability of two types of masks for meeting this hazard, one being the M. S. A. combination hose mask, manufactured by the above company, which feeds the worker fresh air through an extension hose from outside the gaseous area and can be used in the strongest of fumes. It is regularly provided with fifty feet of hose but up to one hundred twenty-five feet can be used when necessary. A blower is provided for overcoming all breathing resistance. The body harness of the mask is of the safety belt type

Hose mask for protection against hydrogen sulphide.

arranged for attaching a life line. It is recommended that the mask be used in all underground work as in the cellar, under the derrick, where there is a possibility of encountering a high concentration of fumes or an oxygen deficiency.

A canister mask, such as the Burrell G. M. A. type manufactured by the Mine Safety Appliances Company, which has the advantage of being light in weight, a compact unit, is recommended for use on the floor of the derrick when fumes are encountered in dangerous concentrations. The canister is provided with suitable chemical for absorbing the poisonous gases and on exhaustion is to be replaced with a new one.

Care is to be taken not to use the canister mask in confined spaces where the fumes may be too concentrated or there is a possibility of an oxygen deficiency.

NORTH CENTRAL TEXAS

(Continued from Page 32)

1,895 feet from 3,308 feet and shooting with 80 quarts at 1,877-90 feet.

Wichita County

Block 41 Oil Co.'s No. 10 Kemp & Kempner pumped 6 bbls. at 1,760-70 feet. Clark and others' No. 5 Ward & Todd was estimated good for 100 bbls. at 1,861-71 feet. Kimmel, Dillard & Bowen's No. 2 Fassett was dry and abandoned at 1,852 feet. McBroom and others' No. 1 Guthrie was a failure at 2,007 feet. Magnolia Petroleum Co.'s No. 12 O. C. Beach made 12 bbls. at 1,210-17 feet; No. 129 Reilly made 20 bbls. at 1,632-34 feet; No. 10 Warren was dry and abandoned at 2,090 feet. Rubsam, Hunter and others' No. 3 McClure was estimated good for 25 bbls. at 1,328-39 feet and was being put on the pump. Ruff & Wilson's No. 1 Kemp & Kempner was dry and abandoned at 1,852 feet. Simms Oil Co.'s No. 3 Dutton pumped 100 bbls. the first 24 hours and 80 bbls. the next day at 1,163-77 feet. Texhoma Oil & Refining Co.'s No. 7 Burnett-M was dry and abandoned at 1,622 feet.

Wilbarger County

Barkley & Meadows' No. 13 Stephens-A was estimated good for 10 bbls. at 2,270-80 feet, and 25 bbls. at 2,327-65 feet.

Beatty's No. 2 Waggoner was estimated at 25 bbls. of oil and 20 bbls. of water in oil sand at 1,962-71 feet, total depth 1,974 feet. Bridwell & Heydrick's No. 12 Dill pumped 13 bbls. at 2,289-2,315 feet.

Empire Gas & Fuel Co.'s No. 38 Stephens pumped 30 bbls. of oil and 35 bbls. of water at 2,281-94 feet, total depth 2,-296 feet. Humble Oil & Refining Co.'s No. 48-A Stephens pumped 65 bbls. estimated from sand at 1,292-1,332 and 1,-373-1,409 feet; No. 6 Waggoner-K was estimated a 200-bbl. well at 1,855-76 feet, total depth 1,877 feet; No. 1 Waggoner-P was estimated at 25 bbls. at 1,944-57 feet, total depth 1,958 feet.

Magnolia Petroleum Co.'s No. 50 Piper made 40 bbls. at 1,973-78 feet. The Milham Corp. of Texas' No. 1 Waggoner-D was dry and abandoned at 3,780 feet; No. 10 Waggoner-H was a recompletion pumping 140 bbls. at 2,330-37 feet, total depth 2,342 feet; No. 11 Waggoner-L pumped 150 bbls. at 1,899-1,910 and 1,924-42 feet with lime in between the two sands.

Phillips Petroleum Co.'s No. 4 Waggoner-I swabbed 8 bbls. in 24 hours at 1,856-59 feet; No. 5 Waggoner-Q pumped 25 bbls. at 1,874-86 feet, total depth 2 feet deeper; No. 6 Waggoner-Q flowed 247 bbls. through tubing and packer at 1,860-75½ feet, total depth 2 feet deeper; No. 4 Waggoner-T was estimated good for 35 bbls. at 2,296-2,345 feet and was cleaning out; No. 5 Waggoner-T was flowing 400 bbls. through tubing and packer at 1,861-84 feet; No. 8 Waggoner-QQ swabbed 162 bbls. at 1,882-1,902 feet, total depth 1,904 feet and was cleaning out; No. 1 Waggoner-UU swabbed 200 bbls. at 2,320-42 feet; No. 3 Waggoner-WW swabbed 290 bbls. at 1,896-1,908 feet and 1,927-48 feet.

Young County

Burton & Texhoma Oil & Refining Co.'s No. 2 Benson pumped 49 bbls. at 911-58 feet. Commercial Petroleum Co.'s No. 1 Moore was dry and abandoned at 1,126 feet, dry sand at 1,067-69 feet. Evans and others' No. 2 Logan was estimated at 25 bbls. in sand at 547-49 feet and was put to pumping. Madden and others' No. 2 Benson swabbed 65 bbls. at 900-22 feet, total depth 1 foot deeper. Magnolia Petroleum Co.'s No. 6 Little and others made 10 bbls. at 1,167-80 feet. Pandem Oil Corp.'s No. 4 Whitehead swabbed 200 bbls. at 867-73 feet and was put on the pump. Reed & Wooten's No. 2 Watson pumped 25 bbls. at 559-68 feet. Roberts Oil Corp.'s No. 8 Rogers made 65 bbls. on the pump at 858-72 feet. Sun Oil Co.'s No. 9 Deitrich pumped 40 bbls. at 1,165-67 feet; No. 10 was dry and abandoned at 1,229 feet with no sand. The Texas Company's No. 12 Beardon was dry and plugged at 1,105 feet with dry sand at 1,087-97 feet; No. 13 pumped 50 bbls. at 1,065-87 feet. Tidal Oil Co.'s No. 4 Benson-A was being put on the pump at 910-41 feet.

WEST TEXAS WILDCATS

Andrew County

Amon G. Carter and Henry Zweifel's No. 1 Cowden, location. Henry Zweifel and others' No. 1 Means, location.

Brewster County

Green Valley Oil Co.'s No. 2 J. P. Wilson was shut down at 2,170 feet. John Rosenborough & Skinner's No. 1 Skinner was shut down at 1,055 feet.

Coke County

Lipan Oil Co.'s No. 1 E. C. Rawlings, shut down at 2,640 feet.

Concho County

Kemper Kimberlin and others' No. 1 Schultz, shut down at 1,520 feet. Culbertson Brothers' No. 1 W. S. See, shut down at 330 feet.

Crane County

J. S. Cosden and others' No. 1 Connell was dry and abandoned at 4,085 feet. Cranfill Brothers Oil Co.'s No. 1 P. J. Lea, rigging up. Duffy Brothers and others' No. 1 Cowden Brothers, location. Gulf Production Co.'s No. 1 State-Lasseter, building rig. Gulf Production Co.'s No. 1 Crier-McIlroy, drilling at 50 feet; No. 2, drilling at 437 feet; No. 3, rigging up. Gulf Production Co.'s No. 2 J. T. McElroy, rigging up; No. 3, drilling at 775 feet. Magnolia Petroleum Co. and others' No. 2 University-Church, spudded and shut down. Magnolia Petroleum Co.'s No. 1 O'Keefe (University) drilling at 1,780 feet, top of salt 1,170 feet. Marland Oil Co.'s No. 1 Hughes-Gibbs, building rig; No. 1 W. F. Durham, plugged back to 2,642 feet from 2,667 feet, top of pay 2,475 feet, completed for 35 bbls. F. P. Zoch and Marland Oil Co.'s No. 2 Keith-Hughes, building rig. The Texas Company's No. 1-F Union Land Co., pay sand at 3,014-16 feet, running 8-inch casing at 2,010 feet, with oil running over the casing; No. 2 H. M. King is spudding at 150 feet. Tidal Oil Co.'s No. 1 University is fishing at 555 feet. Texas Development Co.'s No. 1 Cowden is shut down at 3,820 feet.

Crockett County

The California Co.'s No. 2 University was drilling by 5 joints of 8-inch at 2,-595 feet, total depth. Cranfill Brothers Oil Co.'s No. 1 Harris, a location. J. S. Cosden and others' No. 1 Nockle, shut down at 3,275 feet. Cumberland Oil & Gas Co.'s No. 1 Couch, shut down at 960 feet. Magnolia Petroleum Co.'s No. 1 Shannon, drilling at 4,330 feet. Marland Oil Co. and Wallace's No. 1 J. S. Pierce, a location. William Schaffer and others' No. 1 University, fishing for 3 joints of 8-inch at 2,191 feet. Ben Simon and others' No. 1 Shannon, drilling at 1,265 feet. J. D. Young and Carl Cromwell's No. 1 R. Maddie, shut down at 1,625 feet for casing. J. D. Young and Carl Cromwell's No. 1 Shannon, a location. F. P. Zoch and Marland Oil Co.'s No. 1 University was shut down at 2,005 feet. H. F. Wilcox Oil & Gas Co.'s No. 1 University was drilling at 2,165 feet.

Culberson County

Big Lake Oil Co. and others' No. 1 C. L. Cass, a location. Deep Rock Oil Co.'s No. 1 T. P. Fee, drilling at 2,330 feet. The Pure Oil Co.'s No. 1 Mrs. G. H. Quaid, drilling at 4,850 feet, it had a slight show of oil at 4,275-4,305 feet.

Ector County

J. S. Cosden, Henry Zwiefel and others' No. 1 Johnson, drilling at 2,370 feet in salt, top of salt 1,615 feet. J. S. Cosden and others' No. 1-A G. W. Connell, drilling at 462 feet, crooked hole; No. 1-B W. E. Connell, drilling at 2,660 feet. Exploration Co.'s No. 1 Kloh & Rumsey, underreaming 10-inch at 1,100 feet, total depth 1,135 feet. Llano Oil Co. and others' No. 1 E. P. Cowden, spudding water well. Simms Oil Co.'s No. 1 W. P. Edwards, drilling at 931 feet. F. E. Skinner & Eastland Oil Co.'s No. 1 J. W. Buchanan, drilling by bit at 2,308 feet. Leigh Taliaferro and others' No. 1 Henderson, drilling at 360 feet.

Fisher County

Ideal Oil Co.'s No. 1 W. F. Martin, running 8-inch casing at 2,335 feet.

Gaines County

Hucony Oil Co.'s No. 1 Lindsey, running 6-inch casing at 1,500 feet.

Garza County

Deep Rock Oil Co.'s No. 1 S. M. Swenson, underreaming 50 feet off bottom, total depth 2,618 feet. Emerald Oil Co.'s No. 1-A Connell, shut down at 3,-200 feet. Emerald Oil Co.'s No. 1 J. M. Boren, shut down at 2,600 feet.

Glasscock County

Case & Hoover and others' No. 1 Sparkman, drilling at 3,270 feet. Marland Oil Co.'s No. 1 Nellie Calder, shut down at 2,040 feet for crew.

Howard County

Deep Rock Oil Co.'s No. 1 W. T. Scott, shut down at 3,605 feet. Joe Edgar and others' No. 1 Roberts, drilling at 600 feet. Lockhart & Carey's No. 1 Dora Roberts, shut down at 50 feet; No. 1 W. T. Scott, underreaming the 10-inch casing at 800 feet; No. 1 Otis Chalk was shot with 20 quarts at 1,566-76 feet, total depth 1,586 feet and was cleaning out to be put on the pump. Magnolia Petroleum Co.'s No. 1 Otis Chalk was shot with 80 quarts at 1,569-83 feet and again with 80 quarts at 1,599-1,606 feet. It was plugged back to 1,584 feet and swabbed 70 bbls. of oil and 10 bbls. of water and was being put on the pump. A rig is up for No. 2 Marland Oil Co.'s No. 1 Otis Chalk was completed as a 51-bbl. pumper, 1,604-10 feet; No. 2 Otis Chalk had a rig up. Owens & Sloan's No. 2 Otis Chalk was shot with 40 quarts at 1,572-92 feet and was being put on the pump. Reeves, Apperman and others' No. 1 H. R. Clay was skidded 8 feet west and was spudding. Transcontinental Oil Co.'s No. 1 Roberts, drilling at 3,716 feet with a hole full of sulphur water at 3,637-41 feet.

Jeff Davis County

Herbert Oil Co.'s No. 1 T. M. Wingo rigged up to deepen at 3,000 feet and shut down. Humble Oil & Refining Co.'s No. 1 W. W. McCutcheon, drilling at 1,860 feet. J. K. Hughes Development Co.'s No. 1 J. Z. Means, rig up; No. 2 J. Z. Means, a location.

Jones County

Phillips Petroleum Co.'s No. 1 Joe Winters, fishing at 660 feet. Shaw & Rathke and others' No. 1 William Bristow, shut down at 590 feet. J. C. Yancey and others' No. 1 Rowell spudded and shut down; No. 1 Horndon, also spudded and shut down.

Kent County

The Texas Company's No. 1 Barron, drilling at 3,965 feet.

Loving County

Lockhart & Co.'s No. 1 L. Allen, drilling at 1,505 feet.

Lynn County

The Hart Oil Corp.'s No. 1 C. O. Edwards was shut down at 860 feet.

Midland County

M. Agress and others' No. 1 Jones, shut down at 2,113 feet. Rook & Zimmerman's No. 1 Hill, shut down at 3,715 feet.

Mitchell County

The California Co.'s No. 1 W. L. Foster, Lease 1, swabbed 10 bbls. from pay sand at 2,605-20 feet and 2,804-2,975 feet, total depth 3,000 feet, after a shot of 340 quarts; No. 1 J. J. Handley, drilling at 355 feet; No. 1 Petitfils, lease 1, swabbed 117 bbls. after a shot of 300 quarts at 2,950-3,070 feet, top of pay 2,-900 feet, total depth 3,080 feet; No. 1 Kloh & Rumsey was dry and abandoned at 4,145 feet. Mid-Kansas Oil & Gas Co.'s No. 2 Ellwood, straightening hole at 445 feet.

Nolan County

Hucony Gas Co.'s No. 1 Arthur Sears, spudding.

Pecos County

Cromwell & Kimberlin's No. 1 Scharff-Blackman, rigging up. Dixie Oil Co.'s No. 1 Hershenson, drilling at 5,130 feet. Lloyd & Miller's No. 1 Bonebrake, location. Transcontinental Oil Co.'s No. 1 Perry, drilling at 3,350 feet. Southern Development Co.'s No. 1 R. G. Heiner, location. Quinby Oil Co.'s No. 1 Townsite, shut down at 2,800 feet. West Texas Exploration Co.'s No. 1 Macy, shut down at 1,160 feet.

Presidio County

Hadlock & Miller's No. 1 Tootle estate, drilling by casing at 2,200 feet, total depth.

Reagan County

H. D. Camp and others' No. 1 University, set 6-inch casing at 2,682 feet and was bailing water. Marland Oil Co.'s No. 1 University, a location. Marland Oil Co. and Mascho's No. 1 Sawyer Cattle Co., drilling at 2,820 feet. Marland Oil Co. and Frank Pickerell's No. 1 Sawyer Cattle Co., fishing for tools at 2,330 feet. Ben Simon and others' No. 1 R. A. Walters, shut down at 2,030 feet. Texon Oil & Land Co.'s No. 1 University, had a hole full of sulphur water at 3,210-20 feet and was waiting on orders to plug.

Reeves County

Schooler, Slack and others' No. 1 Abrams set 8-inch casing at 2,405 feet and was shut down. Gresham & Hunter's No. 1 State land, shut down at 600 feet. Humble Oil & Refining Co.'s No. 1 Kloh & Rumsey set 5-inch casing and was bailing, total depth 4,327 feet.

Runnels County

Sillix & Rainwater and others' No. 1 Krubber, dry and abandoned at 500 feet.

Schleicher County

Beavers & Leath and others' No. 1 J. A. and W. T. Whitten, spudded and shut down. Cope & Dalton's No. 1 Sol Meyer, drilling at 510 feet, hole full of sulphur water at 460 feet.

Scurry County

Camp Springs Oil & Gas Co.'s No. 1 J. O. Guinn, shut down at 3,866 feet. Fogelson and others' No. 1 Boyce, rigged up at 1,905 feet; No. 1 Haney, a location. Northwest Co.'s No. 1-A H. P. Welborn, fishing at 3,428 feet.

Stonewall County

Arkansas Fuel Co.'s No. 1 Craft, shut down at 3,698 feet. Swenson Oil Corp.'s No. 1 Ward, shut down at 3,828 feet.

Sterling County

California Co.'s No. 1 Davis, dry and abandoned at 3,500 feet. Co-Operative Lease & Development Co.'s No. 1-A E. W. Douthitt, drilling at 2,820 feet. Exploration Co.'s No. 1 C. A. Boome, rebuilding rig at 1,260 feet. H. D. Rummel and others' No. 2 L. T. Clark, shut down for orders at 1,175 feet.

Sutton County

Chesapeake Oil Co.'s No. 1 Clarkson-Allison, shut down for orders at 3,512 feet.

Terrell County

Sun Oil Co.'s No. 1 Scott, moving in material. E. T. Williams and others' No. 1 Snowden, fishing at 1,260 feet.

TEXAS PANHANDLE

(Continued from Page 30)

Prairie Oil & Gas Co.	750
Republic Production Co.	335
Roxana Petroleum Corp.	50
Simms Oil Co.	25
Sinclair Oil & Gas Co.	75
Sun Oil Co.	170
The Texas Company	945
Texas Pacific Coal & Oil Co.	1,190
Miscellaneous	4,366
Total	11,804
Shackelford	
Empire Gas & Fuel Co.	25
Humble Oil & Ref. Co.	1,225
Magnolia Petroleum Co.	50
Phillips Petroleum Co.	605
Prairie Oil & Gas Co.	15
The Texas Company	175
Miscellaneous	9,127
Total	11,222
Ranger	
Arkansas Fuel Oil Co.	5
Gulf Production Co.	520
Humble Oil & Ref. Co.	55
Magnolia Petroleum Co.	540
Mid-Kansas Oil & Gas Co.	105
Panhandle Refining Co.	125
Phillips Petroleum Co.	15
Prairie Oil & Gas Co.	575
Republic Production Co.	50
Simms Oil Co.	25
Sinclair Oil & Gas Co.	305
The Texas Company	165
Texas Pacific Coal & Oil Co.	765
Transcontinental	30
Miscellaneous	2,425
Total	5,713
Eastland-Comanche	
Empire Gas & Fuel Co.	5
Humble Oil & Ref. Co.	80
Magnolia Petroleum Co.	525
Mid-Kansas Oil & Gas Co.	140
Phillips Petroleum Co.	35
Prairie Oil & Gas Co.	90
Sinclair Oil & Gas Co.	20
Skelly Oil Co.	135
The Texas Company	105
Miscellaneous	680
Total	1,815
Brown	
Cosden Co.	450
Humble Oil & Ref. Co.	3,175
Phillips Petroleum Co.	125
Prairie Oil & Gas Co.	615
Simms Oil Co.	30
The Texas Company	425
Witherspoon Oil Co.	25
Miscellaneous	4,655
Total	9,500
Callahan	
Humble Oil & Ref. Co.	2
Prairie Oil & Gas Co.	850
The Texas Company	135
Texas Pacific Coal & Oil Co.	25
Witherspoon Oil Co.	2
Miscellaneous	3,150
Total	4,165
Miscellaneous Pools	
Reagan County	29,660
Clay County	535
Montague County	4,997
Jack County	175
Throckmorton County	470
Baylor County	130
Palo Pinto County	435
Coleman County	1,625
Scurry County	48
Mitchell County	3,348
Crane County	217
Crockett County	1,070
Upton County	3,936
Howard	41
Cooke	165
Total	46,852
Grand total	177,420

CROWN CENTRAL LEASES TO THE TEXAS COMPANY

NEW YORK, Aug. 2.—During the past week, The Texas Company purchased the producing properties of the Crown Central Petroleum Corp. comprising leases in Oklahoma, Kansas, Louisiana, Arkansas and Kentucky. The sale price was not divulged, but is reported to be around $3,000,000.

The Crown Central Oil Corp. was incorporated in 1924 under the name of the United Central Oil Corp. as successor under a plan of reorganization of the

White Oil Corp. The name was changed to the Crown Central in April, 1925.

The sale to The Texas Company does not include any of the Crown Central's refinery or pipeline properties. The Crown Central has two small refineries, one located at Houston, Tex., and the other at Clarendon, Pa. It has 582,000 shares of no par stock outstanding, and its funded debt consists of $4,000,000 first mortgage and collateral lien 10-year 8 per cent sinking fund bonds; and $825,000 of 5-year 8 per cent debentures, and $80,000 of equipment trust obligations.

The total producing acreage included in the transaction is 27,000 acres. In Kansas and Oklahoma, the company had a daily net production of approximately 290 bbls. It is understood that 100 bbls. of this production, which is located in the Cushing Field of Oklahoma, is reserved. In the Smackover and El Dorado fields of Arkansas, it had 600 bbls. daily, 225,000 bbls. of empty steel storage, 5,000 bbls. of oil in storage, and a 32-car loading rack. The Texas Company is repairing the tanks. In Louisiana, the company had 150 bbls. daily production in Homer, and 45 bbls. in the Caddo Field.

The Texas Company has taken possession of the properties and is operating the leases.

GROUP 3 HAD NO UNUSUAL DEVELOPMENTS

(Continued from Page 20)

where the cost per unit of finished product decreases with the increased volume.

In the refining industry this rule must also be taken into consideration along with the fact that the greater the volume of gasoline recovery the less the recovery of other products.

This fact explains the relatively high prices which have prevailed this year for fuel oil, kerosene and practically all other products obtained from crude except gasoline. These high prices for other products also aids in making possible a more stable gasoline price regardless of the fluctuations in the crude schedules.

Present Situation

Applying this reasoning to the present refined market situation in the Mid-Continent, market students are of the opinion that gasoline prices at the refineries will not be reduced much even if the tankawogn and crude schedules decline this fall—a development still to be classed as possibility rather than a certainty. These students agree that the depression if it develops will not be as drastic as it was in previous years and this fact adds to the probability that the refiners will not be compelled to adjust their U. S. Motor prices to the 6 to 9 cents levels, which prevailed during the falls of 1923, 1924 and 1925.

This discussion regarding the probable fall market trend may seem far removed from the August market now confronting the Mid-Continent refining industry and its customers throughout the Middle West. The latter, however, are apparently judging the present by ill-timed predictions regarding the future so that the sellers have in turn been forced to consider the probable future as it affects their situation. The latter see no reason why the independent elements of the industry should not join with the so-called major interests in taking advantage of the month of August—when approximately 10.5 per cent of the year's gasoline is consumed—to dispose of their current production and inventories in line with costs to all units concerned.

Gasolines and Naphthas

A spread covering the actual moving price of 58-60 U. S. Motor gasoline at the present time would be from 11¼ to 11¾ cents. Several refiners advanced their quotation to the latter figure last week but many were compelled to return to an 11½-cent quotation the first of this week. Resale agents and some jobbers were able to buy as low as 11¼ cents.

The 60-62 gravity was as sluggish as the U. S. Motor grade. Several refiners have been making more of this grade to supply orders coming from two or three of the large refinery buyers and a demand from jobbers. The bulk of this material was moving at 12 cents to the trade the first of the week with sales reported as low as 11¾ cents.

There was no new demand for 64-66 375 from export channels and the domestic demand was light. The price advanced to 12¼ cents the latter part of last week but this quotation could be shaved at least ⅛-cent the first of the week. The naphtha market was firm.

Kerosenes

As previously explained kerosenes lost the momentum which brought the 41-43 grade from a low of 5¼ cents to a high of 9 cents in three weeks' time. There was little new business the last few days of July and the first two days of August and it was reflected in a weaker market. Probably a majority of refiners in Oklahoma are taken care of with orders over the first half of August but some material is available and lower prices are expected unless buyers take the kerosene as it is offered.

The general attitude of the sellers is that any reaction in kerosene prices will be temporary and they expect to be able to maintain high average prices over the next 60 days at least. Buyers found kerosenes weaker in North Texas and Oklahoma and some business was placed there, the seller absorbing the freight differential. The price range on 41-43 the first of the week varied from 7⅞ to 8¼ cents. The 42 grade was scarce with 9 cents the general asking price.

Distillates

All grades of distillates advanced during the week. As has been explained in these columns before, the buyers are expecting relatively high distillate prices this fall and little material is offered the jobber buyers who are now actively seeking to purchase both on the spot market and on contracts. Most refiners were asking from 5 to 5¼ cents for the 38-40 grade and 4¾ cents up for the 36-38 grade. The movement at these prices is not large, some of the jobbers being willing to wait with the refiners to see what the developments are when the distillate consuming season gets under way this fall.

Natural Gasolines

Natural gasolines failed to experience the advance predicted by many last week. A few manufacturers advanced their prices last week but on Tuesday the price schedules were practically the same as the previous Tuesday. Some increase in business was noted as a development of the large number of orders placed for 60-62 400 gasoline at the refineries.

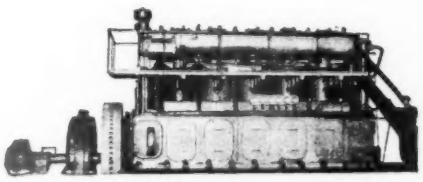
The attitude of a majority of the manufacturers is that their products have struck bottom and any changes in the future will be upward regardless of trends in the refinery market. Past experience has shown that when large withdrawals were made on refinery storage there was an increasing demand for natural gasolines in order to secure material meeting specifications. The storage of natural gasoline is never large and improvement in current demand is quickly reflected in higher prices.

The A grades are generally moving at 8½ cents with a few sales reported as high as 8¾ cents. The B grades were moving at 8½ cents with 8⅛ the low on Grade C.

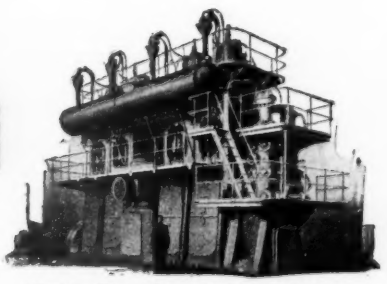
Fuel and Gas Oils

What has been said regarding distillates also applies to fuel and gas oils. Prices, when any changes were made, are higher with very little offered. Several buyers of fuel oil said that they were unable to obtain quotations for immediate delivery on either the 22-26 or 24-26 grades. For the higher gravities there was a price range as high as $1.55 cents. Some jobbers are buying the high gravities to blend with distillates or use straight as fuel for domestic burners. A gas oil suitable for cracking was bringing as high as 4½ cents on Monday and Tuesday. The cracked material was also higher than last week.

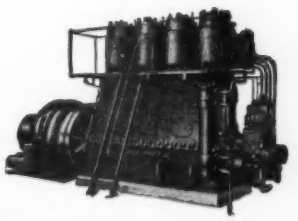
No "stand-by" losses



500-hp. Diesel Engine, direct-connected to A. C. Generator, four-cycle, air-injection.



3000-hp. Direct Reversible Diesel Engine, two-cycle, double-acting, air-injection.



300 hp. Diesel Engine, direct-connected to 200-kw. A. C. Generator, two-cycle, solid-injection.

A WORTHINGTON Diesel oil engine is ideal for "stand-by" power service. There is no long, slow and careful process of "warming-up;" no necessity for lighting fires under boilers and gradually getting up steam. Like a well-trained servant—you never know that it is there until it is needed, but when needed, it is instantly at your command.

There are several standard types of Diesel oil engines; four-stroke cycle, two-stroke cycle, air or solid-injection, single or double-acting. All have their desirable features. Worthington builds them all. You can safely accept the recommendations of our engineers, therefore, as impartial. We have more than merely engines to sell; we offer you engineering service.

WORTHINGTON PUMP AND MACHINERY CORPORATION
115 BROADWAY, NEW YORK CITY BRANCH OFFICES IN 24 CITIES

WORTHINGTON

7231-5(2)

BIG GAIN IN INITIAL PRODUCTION OF WELLS

(Continued from Page 29)

Summary of Rigs and Wells Drilling

County—	Rigs	Drg.	Ttl.
Osage	31	86	117
Tulsa	5	36	41
Okmulgee	22	78	100
Seminole	22	113	135
Okfuskee	15	49	64
Hughes	1	59	60
Muskogee and Wagoner	3	25	28
Creek	41	130	171
Pawnee	8	41	49
Kay	6	96	102
Payne	2	39	41
Lincoln	4	40	44
Noble	1	21	22
Grant	1	15	16
Garfield	8	110	118
Grady	9	23	32
Comanche	3	20	23
Pontotoc and Garvin	4	15	19
Stephens and Cotton	8	45	53
Jefferson	4	9	13
Carter	20	71	91
Miscellaneous	17	86	103
Total July	235	1,207	1,442
Total June	233	1,214	1,447
Difference	2	7	5

KANSAS

Summary of Wells Completed

County—	Comp.	Prod.	Dry	Gas
Anderson	44	2,461	5	0
Butler	33	1,525	20	0
Chautauqua and Elk	23	846	7	3
Cowley	14	2,163	5	0
Greenwood	85	8,245	18	0
Lyon	21	1,075	14	0
Montgomery	22	65	13	2
Miscellaneous	61	2,512	27	5
Total July	303	18,892	109	10
Total June	195	16,129	51	6
Difference	108	2,763	58	4

Summary of Rigs and Wells Drilling

County—	Rigs	Drg.	Ttl.
Butler	10	36	46
Chautauqua and Elk	2	13	15
Cowley	8	34	42
Greenwood	48	76	124
Kingman	1	11	12
Lyon	4	25	29
Montgomery	0	12	12
Rice	1	10	11
Sumner	1	20	21
Woodson	1	10	11
Miscellaneous	15	100	115
Total July	91	347	438
Total June	112	364	476
Difference	21	17	38

EAST CENTRAL TEXAS

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Limestone	5	6,850	2	0	17	33	50
Navarro	1	0	1	0	0	7	7
Anderson	0	0	0	0	0	2	2
Cherokee	0	0	0	0	1	5	6
Ellis	0	0	0	0	0	2	2
Falls	0	0	0	0	0	2	2
Freestone	0	0	0	0	0	1	1
Grimes	0	0	0	0	0	1	1
Hill	0	0	0	0	0	2	2
Henderson	0	0	0	0	0	2	2
Hopkins	0	0	0	0	0	1	1
Milam	0	0	0	0	0	2	2
Total July	6	6,850	3	0	18	60	78
Total June	2	1,775	0	0	1	33	34
Difference	4	5,075	3	0	17	27	44

NORTH AND WEST TEXAS

Summary of Wells Completed
West Texas

County— West Texas:	Comp.	Prod.	Dry	Gas
Crane	6	795	4	0
Crockett	7	455	3	0
Irion	2	0	2	0
Mitchell	3	232	0	0
Reagan	11	2,270	2	1
Reeves	1	0	1	0
Sterling	1	0	1	0
Tom Green	1	0	1	0
Upton	16	5,279	3	0
Ward	1	0	1	0
Total July	49	9,031	18	1

North Texas:				
Archer	106	3,185	49	0
Baylor	2	35	1	0
Brown	88	7,123	28	1
Callahan	17	1,783	6	0
Clay	5	0	5	0
Coleman	13	275	7	0
Comanche	1	3	0	0
Cooke	2	165	1	0
Eastland	18	683	8	2
Erath	1	0	0	1
Fannin	2	0	2	0
Haskell	1	0	1	0
Jack	32	217	22	0
Montague	40	2,675	6	0
Palo Pinto	2	15	1	0
Shackelford	41	10,242	16	1
Stephens	14	73	10	0
Throckmorton	7	0	6	1
Wichita	56	898	24	0
Wilbarger	62	7,226	13	0
Young	92	2,323	52	0
Total, North Texas	602	36,926	258	6
Grand total North and West Texas, July	651	45,957	276	7
Grand total, North and West Texas, June	503	29,779	213	9
Difference	148	16,178	63	2

Summary of Wells Drilling

County— North Texas:	Rigs	Drg.	S.D.	Ttl.
Archer	7	50	9	66
Brown	3	32	5	40
Callahan	4	21	6	31
Coleman	4	23	16	43
Eastland	10	32	8	50
Jack	2	13	3	18
Montague	4	35	1	40
Shackelford	10	37	4	51
Stephens	5	26	18	49
Throckmorton	1	17	2	20
Wichita	1	38	8	47
Willbarger	14	92	13	119
Young	3	25	8	36
Miscellaneous	7	33	25	65
West Texas:				
Crane	8	5	1	14
Crockett	1	13	4	18
Mitchell	3	6	4	13
Reagan	3	33	6	42
Upton	25	19	1	45
Miscellaneous	7	40	36	83
Total July	122	588	177	887
Total June	130	634	187	951
Difference	8	46	10	64

TEXAS PANHANDLE

Summary of Wells Completed

County—	Comp.	Prod.	Dry	Gas
Carson	3	130	0	2
Gray	1	1,300	0	0
Hutchinson	56	33,967	1	2
Wheeler	1	298	0	0
Total July	61	35,695	1	4
Total June	60	32,172	3	2
Difference	1	3,523	2	2

Summary of Wells Drilling

County—	Rigs	Drg.	S.D.	Ttl.
Carson	2	25	5	32
Gray	31	32	0	63
Hutchinson	56	332	17	405
Wheeler	4	5	3	12
Miscellaneous	12	13	8	33
Total July	105	407	33	545
Total June	184	234	36	454
Difference	79	173	3	91

SOUTHWEST FIELDS

Summary of Fields Operations

Field—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
*Mirando	53	10,955	5	2	21	44	65
Luling	1	0	1	0	0	7	7
Somerset	2	100	0	0	0	0	0
Lockhart	1	0	1	0	0	0	0
Rockdale-Minerva	4	40	0	0	1	4	5
Miscellaneous	16	15	14	1	18	64	82
Total July	77	11,110	21	3	40	119	159
Total June	43	7,221	3	11	41	114	155
Difference	34	3,889	18	8	1	5	4

*Includes Webb, Jim Hogg, Zapata Counties and part of Duval County.

ARKANSAS

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Union	71	3,639	10	2	29	79	108
Ouachita	12	313	5	0	4	22	26
Columbia	2	5	1	0	3	2	4
Nevada	3	60	1	1	3	1	4
Miscellaneous	5	0	5	0	1	14	15
Total July	93	4,017	22	3	39	118	157
Total June	95	6,038	16	6	61	104	165
Difference	2	2,021	6	3	22	14	8

LOUISIANA

Summary of Field Operations

Parish—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Bossier	6	27	2	1	2	2	4
Caddo	25	814	5	4	16	34	50
Caldwell	1	0	1	0	2	2	4
Claiborne	2	31	1	0	0	3	3
Grant	3	0	3	0	2	6	8
La Salle	51	4,370	13	1	12	26	38
Monroe district	8	0	1	7	5	13	18
Natchitoches	1	0	1	0	0	2	2
Sabine	1	0	1	0	0	1	1
Webster	2	185	0	0	9	10	19
Winn	5	175	3	0	0	6	6
Miscellaneous	0	0	0	0	3	15	18
Total July	105	5,602	31	13	51	120	171
Total June	96	5,962	30	12	50	129	179
Difference	9	360	1	1	1	9	8

GULF COAST

Summary of Field Operations

District—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Boling	13	135	11	0	4	4	
Batson	6	89	0	2	2	4	
Big Creek	2	4,380	0	0	2	2	
Blue Ridge	2	1,000	1	1	2	3	
Barber Hill	1	0	1	0	2	2	
Edgerly (La.)	0	0	0	0	3	3	
Goose Creek	8	1,366	2	3	9	12	
Humble	4	125	1	0	5	5	
Hull	17	9,090	4	3	11	14	
High Island	2	15	1	0	4	4	
Jennings (La.)	6	125	1	3	3	6	
Lockport (La.)	2	1,025	0	3	6	9	
Nash	1	0	1	0	4	4	
Markham	0	0	0	0	2	2	
Orange	13	9,865	2	3	10	13	
Orchard	0	0	0	0	1	1	
Pierce Junction	2	3,500	0	1	4	5	
Piedras Pintas	1	0	1	0	3	3	
Spindletop	11	40,100	0	12	26	38	
Saratoga	2	600	1	0	1	1	
Sour Lake	5	2,400	3	6	7	12	
South Liberty	1	3,000	0	0	3	3	
Vinton (La.)	6	250	4	0	12	12	
Misc.	8	40	7	19	63	82	
West Columbia	1	20	0	0	0	0	
Total for July	114	77,125	41	55	189	244	
Total for June	106	23,014	41	49	204	253	
Difference	8	54,111	0	6	15	9	

WYOMING

Summary of Field Operations

District—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Big Muddy	1	5	0	0	4	4	
Salt Creek	37	2,038	2	0	20	147	167
Lance Creek	0	0	0	0	1	2	3
Big Horn Basin	6	445	2	0	4	57	61
Lost Soldier & Carbon Co.	9	1,425	2	3	7	22	29
Rock River District	0	0	0	0	0	14	14
Fremont Co.	1	150	0	0	0	33	33
Osage	0	0	0	0	0	8	8
Natrona Co.	1	0	1	0	0	8	8
Lincoln and Uinta Cos.	0	0	0	0	4	31	35
Baxter Basin	0	0	0	0	0	8	8
Miscel.	1	0	1	0	2	28	30
Total July	56	4,063	8	3	41	358	399
Total June	37	6,636	6	1	37	348	385
Difference	19	*2,573	2	2	4	10	14

*Decrease.

MONTANA

Summary of Field Operations

District—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Sunburst	54	9,507	17	4	7	57	64
Cat Creek	1	0	1	0	1	15	16
Miscel.	3	0	1	2	4	56	60
Total July	58	9,507	19	6	12	128	140
Total June	47	4,839	21	3	17	148	165
Difference	11	4,668	2	3	5	20	25

COLORADO

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Total July	12	3,749	4	1	16	97	113
Total June	13	690	6	3	14	101	115
Difference	1	3,059	2	2	2	4	2

UTAH

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Total July	0	0	0	0	2	31	33
Total June	0	0	0	0	3	31	34
Difference	0	0	0	0	1	1	1

NEW MEXICO

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Total July	13	1,390	5	0	8	151	159
Total June	12	195	7	0	13	132	145
Difference	1	1,195	2	0	5	19	14

EASTERN FIELDS

Summary of Wells Completed

Field—	Comp.	Prod.	Dry	Gas
Allegany	27	55	2	1
Bradford	115	300	3	0
Middle Field	2	12	0	0
Venango-Clarion	28	28	3	1
Butler-Armstrong	10	5	2	5
Southwest Pennsylvania	23	142	5	13
West Virginia	85	1,463	20	27
Southeast Ohio	105	737	25	16
Total July	396	2,742	60	63
Total June	426	1,763	41	55
Difference	30	979	19	8

Fields—	Rigs	Drg.	Ttl.
Allegany	15	22	37
Bradford	22	115	137
Middle Field	1	7	8
Venango-Clarion	5	18	23
Butler-Armstrong	4	17	21
Southwest Pennsylvania	11	34	45
West Virginia	47	166	213
Southeast Ohio	48	117	165
Total July 31	153	496	649
Total June 30	130	503	633
Difference	23	7	16

ILLINOIS

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Clark	6	120	0	0	0	10	10
Crawford	10	36	2	2	0	9	9
Lawrence	2	40	0	0	2	5	7
Wabash	13	928	2	0	1	13	14
Marion	2	0	2	0	0	4	4
Coles	0	0	0	0	0	2	2
Douglass	0	0	0	0	0	1	1
Jasper	0	0	0	0	0	1	1
Fayette	0	0	0	0	1	0	1
McDonough	0	0	0	0	0	4	4
Edwards	0	0	0	0	0	1	1
Randolph	0	0	0	0	0	1	1
Madison	0	0	0	0	0	1	1
Total July	33	1,124	6	2	4	52	58
Total June	25	841	3	0	4	44	48
Difference	8	283	3	2	0	8	10

INDIANA

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Blackford	0	0	0	0	1	1	1
Jay	1	5	0	0	0	1	1
Adams	5	13	1	0	3	3	6
Huntington	1	20	0	0	0	0	0
Randolph	0	0	0	0	1	0	1
Gibson	2	0	2	0	0	3	3
Pike	3	75	0	0	1	10	11
Sullivan	2	1	0	1	0	3	3
Allen	1	6	0	0	1	2	3
Knox	1	11	0	0	0	4	4
Daviess	13	688	0	0	0	8	8
Shelby	0	0	0	0	0	1	1
Lagrange	0	0	0	0	0	1	1
Vigo	0	0	0	0	0	1	1
Dubois	0	0	0	0	0	1	1
Warrick	0	0	0	0	0	1	1
Total July	29	817	3	2	3	45	48
Total June	16	247	3	1	3	37	40
Difference	13	570	5	1	0	8	8

LIMA FIELD

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Wood	10	189	0	0	0	6	6
Hancock	6	138	0	0	0	9	9
Allen	4	50	0	0	0	5	5
Auglaize	5	13	3	0	0	2	2
Sandusky	5	51	0	0	0	4	4
Mercer	6	29	0	1	0	7	7
Seneca	1	30	0	0	0	1	1
Lucas	1	15	0	0	0	2	2
Ottawa	2	30	0	0	0	4	4
Shelby	7	58	0	1	0	6	6
Hardin	2	125	0	0	0	4	4
Darke	2	90	1	0	0	1	1
Paulding	0	0	0	0	2	1	3
Clark	0	0	0	0	0	1	1
Wyandot	1	40	0	0	0	2	2
Lima Field	52	861	4	3	2	55	57
Michigan	5	95	2	0	7	21	28
Total July	57	956	5	2	9	76	85
Total June	61	708	6	2	2	73	75
Difference	4	248	1	0	7	3	10

CENTRAL OHIO

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Knox	4	0	2	3	0	7	7
Ashland	9	0	0	0	9	15	24
Medina	13	31	4	4	2	9	11
Lorain	2	0	2	0	0	5	5
Wayne	8	12	2	4	9	11	20
Holmes	8	313	1	3	6	19	25
Athens	7	0	2	5	3	12	15
Coshocton	4	172	1	2	3	3	6
Guernsey	5	0	1	4	14	9	23
Cuyahoga	5	0	1	4	0	11	11
Richland	1	0	1	0	0	0	0
Vinton	4	28	0	0	0	2	2
Jackson	0	0	0	0	1	0	1
Total July	70	556	17	37	47	103	150
Total June	41	172	11	27	45	97	142
Difference	29	384	6	10	2	6	8

KENTUCKY-TENNESSEE

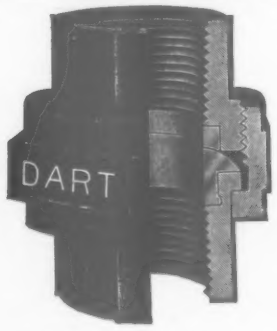
Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Warren	12	46	5	0	1	14	15
Allen	16	34	4	0	0	10	10
Barren	26	126	7	1	0	44	44
Owensboro District	22	223	3	0	0	31	31
Cumberland-Monroe	2	5	1	0	3	10	13
Simpson	2	10	0	0	0	2	2
Green	1	0	0	1	0	0	0
Casey	0	0	0	0	1	1	2
Clinton	0	0	0	0	0	1	1
Wayne	3	1	2	0	1	4	5
Lee-Owsley	2	8	0	0	0	7	7
Powell	1	5	0	0	0	0	0
Estill	8	62	2	0	0	9	9
Wolfe	2	9	0	0	1	0	1
Lawrence-Johnson	17	132	0	0	0	13	13
Johnson-Magoffin	9	138	0	0	3	18	21
Floyd	2	0	1	1	0	4	4
Knox	0	0	0	0	0	3	3
Morgan	1	0	1	0	1	3	4
Elliott	0	0	0	0	1	2	3
Menifee	0	0	0	0	0	2	2
Lourel	0	0	0	0	0	1	1
Jackson	0	0	0	0	0	1	1
Greenup	0	0	0	0	0	1	1
Carter	1	5	0	0	0	3	3
Kentucky	127	804	26	3	12	185	197
Tennessee	2	100	1	0	0	13	13
Mississippi	0	0	0	0	0	9	14
Alabama	0	0	0	0	0	4	4
Florida	0	0	0	0	0	1	1
Total July	129	904	27	3	17	212	229
Total June	149	2,506	33	6	18	205	223
Difference	20	1,602	6	3	1	7	6

DART UNIONS and FLANGES

Two Bronze Seats

May we send you sample to try on your most troublesome line? It is absolutely free. Write today for catalogue "O."



E. M. Dart Mfg. Co., Providence, R. I.
The Fairbanks Co.,—Distributors

There's Nothing Spectacular About Pipe Performance

IF you could stand by and watch with interest how one pipe out-performed another, a lot more thought would be given to your selection.

But good pipe doesn't go about its business with any sort of show. Its main purpose in life is to last—and last! And the pipe that lasts the longest is the one your wise operator favors.

For tubing, casing or line pipe, "Reading" out-performs its steel competitors two to three times over. It's genuine wrought iron pipe, and resists corrosion and vibration to the limit.

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World's Largest Manufacturers of Genuine Wrought Iron Pipe
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READING PIPE
GENUINE WROUGHT IRON

Unusual Design in Western Refinery

Fractionating Equipment and Treating Methods Unique. Plant Handles 3,000 Barrels Daily on One Block Site

By George W. H. Reid

The MacMillan Petroleum Products Co. of Long Beach, Calif., operates a small plant profitably, although it buys crude at a premium, and sells its products on the open market at prevailing market quotations.

Several factors contribute to the successful operation of the MacMillan refinery other than the efficiency of the equipment and operating methods.

One item of possible interest to small refinery operators is the practice of detailed daily reports covering plant operations and conditions, and the daily financial report supplied the president of the company by the accounting department. These reports reach the president's office early every afternoon and in addition to indicating the plant yields for the previous 24 hours, also give as nearly as possible, the financial status of the company, including the profits made during that same 24 hours.

In this manner every detail of company operation, expenses and income is at hand at all times, and the condition of the company is made known to those most interested.

Some months ago, when gasoline prices were cut in California, the estimates of the department heads were prophetic of operations at a substantial loss. After a series of conferences it was decided that certain executives and department heads could stand a temporary decrease in salary and others in the operating department could work seven days a week instead of six. Other expenditures were done away with, and the MacMillan company operated through the period of depression, until gasoline was increased in price—at a small profit. The markets were then changed, salaries and working hours were readjusted, and the refinery is still earning money.

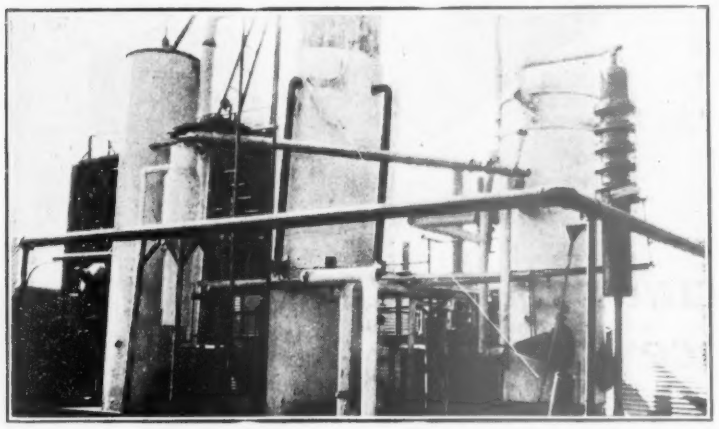

Figure 1—View of fractionating equipment.

The president of the company, R. S. MacMillan, entered the oil industry 3½ years ago, dehydrating Long Beach crude on the site where the present refinery is located. After a few months' operation the company decided to buy crude, dehydrate it, and refine it. This marked the beginning of the present operation. The first installation was a small topping plant, tops and fuel oil being the products marketed. Later a pipe still, consisting of 36 joints, 20 feet long, of 4-inch tubing, was constructed and the engineering firm of Boner and Sheldon called in to install fractionation equipment of their own design.

This equipment consists of three towers termed—vaporizer, stripper and fractionator. The entire work of vaporization or distillation is done at one heating and the total yield of gasoline recovered in the one operation. In addition, the kerosene, stove oil and residuum are separated by fractionation or partial condensation in the dephlegmating equipment. Fractionation equipment in all refining plants of the "one heating" type is essentially the most important and usually the most interesting of the developments on the plant yard. The three towers employed in this installation are each of different design and construction. An interesting feature in regard to the operation of this equipment lies in the fact that it was designed for operation at the rate of from 1,600 to 2,000 bbls. of oil daily but at the present charging rate of 2,800 to 3,100 bbls. daily the equipment is performing very satisfactorily. The plant site including storage facilities occupies one city block.

Flow of Crude

The crude is charged by steam pump to the interchangers where it is heated under usual exchange methods to a temperature of about 250 degrees Fahrenheit. Leaving the interchanger, the partially heated oil is conducted to the vaporizer. In Figure 1—which illustrates the three towers comprising the fractionation equipment, the vaporizer is the center or largest of the towers. There are four 2-inch crude inlet lines, two of which are shown in the picture, extending upward outside of the tower to a point about two-thirds of the total height. The crude stream is split into four smaller streams by means of the rectangular header surrounding the vaporizer. As the crude enters the tower at these four points it is deflected at right angles to the direction of entry and thrown against the shell of the towers. This tangential motion or whirling, spreads the oil into a thin film as it flows downward along the wall of the vaporizer. The heat acquired in the interchanger, about 250 degrees Fahrenheit is sufficient to vaporize about 10 per cent of the crude charged. The volume of gasoline distilled at this temperature is governed by the nature of the crude charged, and this recovery varies considerably since the plant is charging wet crude, dehydrated crude, and dry or clean crude. In addition to the removal of this gasoline cut of approximately 10 per cent of the crude, the temperature reached in the exchangers is sufficient for the evaporation of all the water present in the oil.

The installation was designed, in fact, for operation on wet oil, and the company charges such oil frequently without fear of surging, etc. The vaporized water and gasoline, being liberated from the crude, rises in the tower, passing through several perforated baffle plates in the uppermost compartment of the tower, and is conducted through a small mist extractor (centrifugal knockout box) and then to a vapor line.

A saving of some consequence is noted in the arrangement of vapor lines here, for instead of installing two vapor lines to conduct the primary and the final or main gasoline vapor stream to condensers, the practice is to combine the two streams of vapors in one line at a point just beyond the vapor outlet on the last fractionator. Thus the vapors received from the vaporizer are conducted but a few feet in a separate line, then to enter the main vapor line and combine with the remainder of the gasoline vapors forming one stream of gasoline after condensation.

A second steam pump picks up the crude at the bottom of the vaporizer after it has been freed of water and a large portion of the gasoline vapors, and charges it to the 4-inch tubular retort.

Action of Stripper

Sufficient heat is applied here by automatic temperature regulator controlled gas fires to vaporize the remainder of the gasoline, the kerosene and the stove oil. The hot crude is then discharged or conducted to the stripper,—which is the tower in the right foreground, Figure 1. This tower separates the oil into three cuts. The residuum is removed from the bottom, conducted to interchangers, cooled and stored. The stove oil cut is removed from the bottom of the uppermost compartment, while the gasoline and kerosene vapors are conducted from the top of the stripper over to the bottom of the last tower, called the fractionator.

The stripper, which is the source of fuel oil residuum and stove oil as finished products, is a double compartment tower. The vapors liberated from the crude rise to the upper compartment through about 48 2-inch nipples which extend upward above the separating plate, about 8 inches. Above these nipples there is a series of six or eight baffle plates and screen devices which are somewhat similar in arrangement and working principle to the conventional bubble type tower. A liquid level is maintained on each minutely perforated plate by means of cup and downspout control devices, and the rising vapors pass through this liquid and through a fine screen which is suspended just above the level of the liquid.

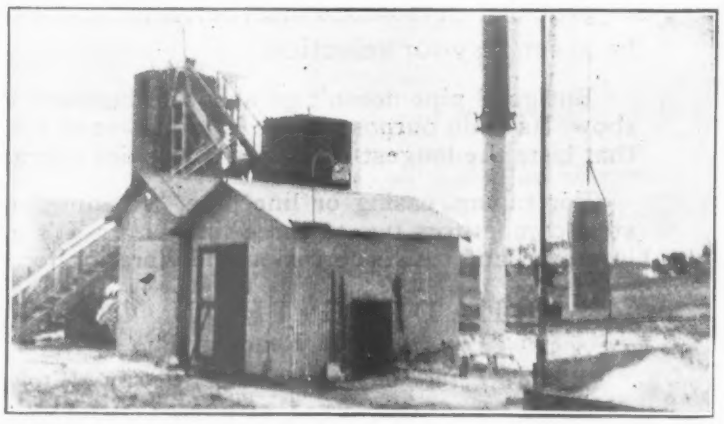

Figure 2—Clay filtering equipment. Note counter balance arrangement for handling outside chamber.

The temperature of this upper compartment is controlled by spraying or recycling hot kerosene stock over the plates, counter-current to the upward flow of the vapors. The hot kerosene stock is derived from the bottom of the last tower. The proper temperature is maintained to assure the condensation of only the heavy distillate called stove oil. As this material condenses and accumulates around the nipples which conduct the vapors upwards from the bottom separating chamber, it is conducted outside of the tower to the "flasher." This equipment is the uninsulated column just in front of the stripper as shown in Figure 1.

Removal of Stove Oil

As the stove oil enters the flasher it is met by a jet of steam, which removes any light particles that may be entrained or condensed in the stove oil, and they are returned to the stripper, entering just below the first plate. The flashed stove oil, finished in this manner, is then conducted from the bottom of the column, cooled, and stored. Thus, the fuel oil residuum and stove oil are removed as finished products from the first tower.

Gasoline and Kerosene Cuts

The vapors leaving the top of the stripper then consist of gasoline and kerosene. They are conducted to a point near the bottom of the third tower or fractionator to enter and rise upward through a series of perforated plates, screens, etc., in a manner similar to that as described in the stripper tower. Overflow devices in this tower control the liquid level on each plate very similarly to the practice with bubble type towers. Gasoline is recycled through the fractionator as a temperature control medium, and the end-point of the gasoline yield is controlled in this manner. The reflux condensate accumulating in the bottom chamber or void, of the fractionator is the kerosene stock, and as previously mentioned this material is handled hot for recycling over the stripper tower.

Another item of interest here is the manner of securing finished kerosene. The line conducting the hot kerosene stock to the stripper is equipped with a back pressure valve and is manifolded in such a manner that all of the kerosene stock over and above that required for temperature control in the stripping tower, is diverted to a second "flasher" device. The volume of the temperature control liquid on all towers, by the way, is determined and controlled by automatic recording temperature control instruments.

As the surplus kerosene stock not needed in the stripper tower enters the kerosene flasher a rising jet of steam strips any light particles or vapors from the kerosene stock and such vapors are conducted to the bottom of the fractionator tower. The second flasher is shown in Figure 1, insulated, just in front of the third tower or fractionator. The finished flashed kerosene is conducted

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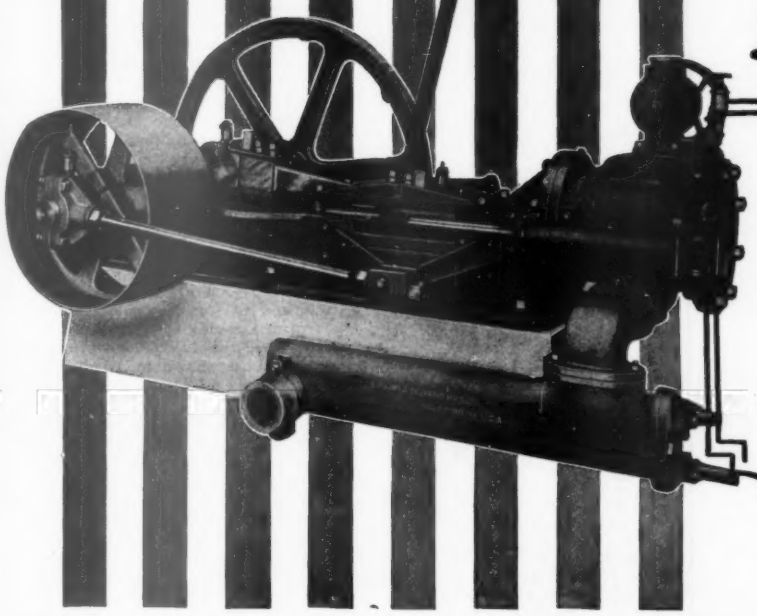

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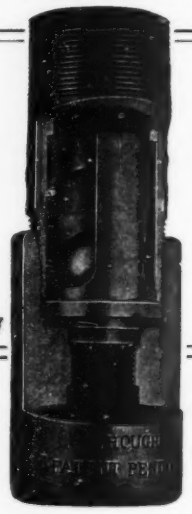

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The gasoline vapors leaving the top of the fractionator through the vapor line are combined with the vapors from the vaporizer as previously mentioned, conducted to a header, split into four streams of vapors and condensed in cast iron Sterling condenser sections,—a total of 2,000 square feet being presented. The gasoline condensed here is combined into one stream by means of a second header arrangement. This condensation reduces the temperature of the vapors from about 275 degrees Fahrenheit to a temperature

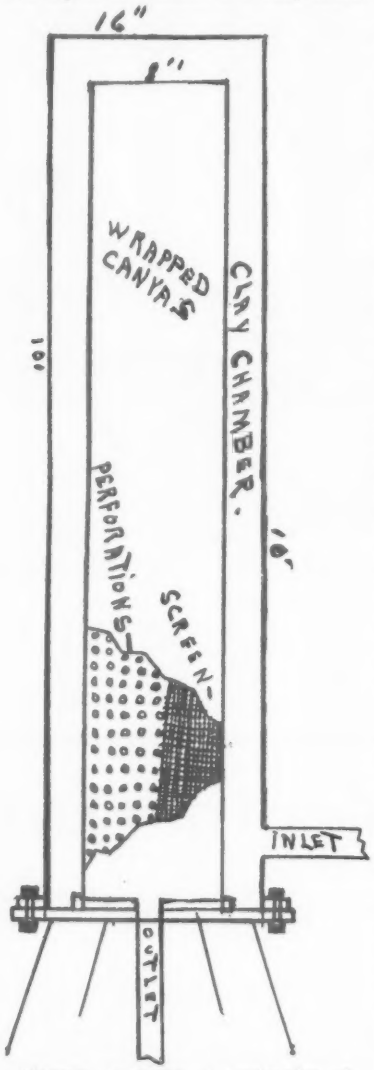

Diagram 1—Details of construction of home-made clay filter.

of 125 degrees Fahrenheit for the condensed distillate. This operation also condenses all the water present in the vapors, and this water is separated from the gasoline stream and returned to the cooling pits for re-use. The water-free gasoline is then conducted through 700 square feet of Sterling cooling sections, where the temperature is reduced from 125 degrees Fahrenheit to 70 degrees Fahrenheit. The finished gasoline is stored in water top tanks both before and after the chemical treatment.

Rapid Turnover

Becase the company has very little storage for crude oil or finished products, the oil charged to stills is always fresh, and the same is true of the finished gasoline. Crude oil or gasoline is seldom held in storage for a period longer than one day. This condition, coupled with the low condensation temperature obtained, contributes toward the securing of low initial boiling point gasoline. Chemical refinement at this plant consists of very little blowing or agitation, and the finished gasoline leaving the plant very seldom requires any natural gasoline blending for initial point specifications. The straightrun gasoline as produced and finished usually has an initial boiling point of 110 to 115 degrees Fahrenheit. The elimination of blending in California operations is a money saving practice for natural gasoline is usually about 5 cents higher in price than the finished blended gasoline.

Treating-Filtering

The refiner operating on Long Beach crude oil is more fortunate in regard to chemical treating of finished products than those running other Los Angeles Basin crudes, for the production at Signal Hill yields gasoline that is chemically treated with much greater ease and economy than gasoline derived from many of the other basin types of petroleum.

The treatment necessary at the MacMillan refinery consists of a very light sulphuric acid treatment, usually about one-fourth pound per barrel, which is followed by agitation with Grade B. neutral contact clay, using about one-half pound per barrel of oil. The total blowing time for both acid and clay treatment never exceeds 20 minutes.

When the MacMillan company looked around in view of buying a filter for the removal of clay from the gasoline they found that costs of installation could be greatly reduced by constructing a filter of their own design and that very satisfactory results could be obtained. The filter, as constructed by C. C. Benz, superintendent of the refinery, is very simple, compact and easy to operate, clean, and reassamble.

Figure No. 2 illustrates the filter installation as it appears after use, and just after the clay cake has been knocked away from the canvas covering the inner shell. As shown in Diagram 1, the filter consists of an outer shell 10 feet high, made of 16-inch casing. This shell acts as a cap, dropping down over the inside chamber of the filter. The outer casing is counterbalanced, as shown in Figure 2, using a pulley, cable and barrel of sand. The inside shell of the filter is made of 8-inch pipe, about 9 feet 4 inches in height. This casing is perforated at intervals of 1½ inches, with one-fourth-inch holes, throughout its height. Then the perforated pipe is wrapped tightly with 16-gauge, 8-mesh wire screening. The screening then is covered with heavy canvas, which likewise is wired to the pipe. Although the canvas is attacked by the acid used, it has been found that the renewal of canvas monthly is more economical than employing wool felt for this purpose.

To operate, the outside shell is dropped into place, bolted with six bolts to the bottom half of the flange, the union on the inlet line made light, and the gasoline started through the filter. The clay cake builds up on the canvas wall of the inside shell and the gasoline is forced through the canvas, the screening, and the one-fourth-inch perforations, and conducted to storage. The filter handles gasoline at the rate of about 200 bbls. per hour, a 10,000-gallon agitator is usually emptied in 1 hour and 15 minutes. The details of construction are shown in Diagram 1. After the gasoline is filtered, the equipment is blown dry with compressed air, the outside shell unflanged, and pulled to the top of the clay holding the inside shell. The clay cake is then knocked off, discarded, and the filter is again ready for another use.

As an additional check against plant operations, other than the daily report or inventory, all gasoline leaving the agitator, and all gasoline that is produced is treated, is metered to storage through a Bassler gasoline meter. This practice also assists in the estimating of treating losses and costs of each batch treated etc. The crude oil charged to stills is also metered through a Bassler oil meter as a further check in addition to the gaugers' record of crude handled.

FRENCH TANKER SUBSIDY

The French Parliament has amended the law of January 10, 1925, to provide for an extension of 10 years in the period which subsidies will be granted to oil tankers of the French petroleum fleet. This is conditional upon keeping the average amount of the subsidies for the new period equal to or less than those distributed during the last three years of the first period.

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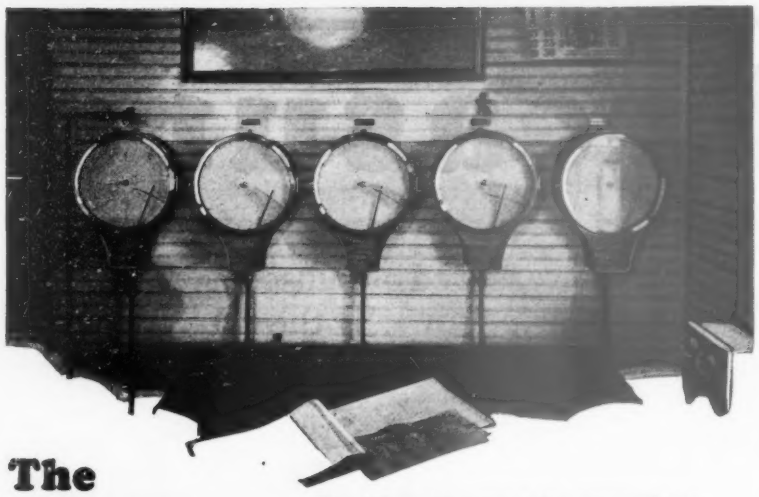

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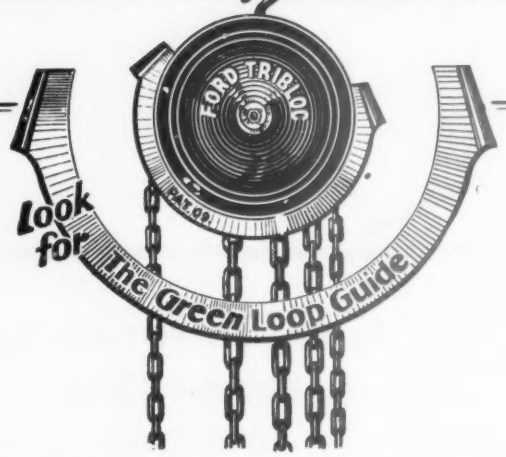

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Engineer Describes Operations in Peru; Hardships Mythical

CHATHAM, Ont., July 31.—H. Spencer Kennedy, electrical engineer, is spending a vacation with his parents in Fernie, B. C., after three years with the International Petroleum Co. in Peru. Discussing his experiences, he states that hardships in the Peruvian oil fields are practically a myth.

The International Petroleum Co., a subsidiary of Imperial Oil, Ltd., of Toronto, controls extensive oil concessions in Peru and Ecuador. The managing center of operation is at Negritos, while the refining and shipping of the product is handled at Talara, the only developed port in that district. Both these settlements are situated in close proximity to the Pacific Coast at practically sea level and only six degrees south of the Equator.

According to general belief, this should result in extreme tropical heat, but owing to the fact that the Humboldt current, of Antarctic origin, washes up along the coast, the temperature and climate are almost the most desirable in the world.

Owing to the fact that this section of Peru never had any rain prior to 1925 for a period of 34 years, the whole land rightly attained the name of "the arid desert section of Peru." At present, owing to the torrential rains of 1925-26, there is considerable scattered vegetation all over this section, giving it quite an uncommon appearance to old-timers, and a wrong impression to new visitors.

Population Division

The population is decidedly divided. The first great division is that of "gringo" and native, or of white people and Peruvians. Then, again, the Peruvians are more or less divided, firstly, into the highly educated, well cultured government customs officials, geologists and engineers who are the eyes of the Peruvian government, to check up the company's development; secondly, the Peruvian tradesmen and office clerks; and thirdly the "peon," or "cholo" class, the untrained labor and uneducated people, found chiefly among the remnants of the old Indian tribes.

The gringo, or white, population is principally Canadian, with some British and Americans, making up a total population in the two settlements of some 800, while the native population ranges about 8,000.

The company builds all its own machine shops, carpenter shops, refrigerating plants, native "Cauchones" and Gringo houses, maintains its own electric power and lighting plants, extensive fresh water pumping and supply systems, and operates at cost large commissaries, in addition to its principal work of drilling, production and refining of oil. A married member of the gringo class has a comfortable cottage, completely furnished and supplied with electric light, gas and water, all free of charge. A single member has a thoroughly modern two-room suite allotted to him. The only hardships experienced are those found in an effort to obtain the proper variety of foodstuffs, green vegetables and fresh fruits.

"Do As Peruvians Do"

It is a case of "when in Peru, do as Peruvians do" to the extent that holidays recognized in Canada are never celebrated, but the gringoes join in las fiestas de 28 de Julio, Santa Mercedes, carnivals, etc. The only common holiday seasons are Christmas and New Years, which happen during the hottest time of the year, the temperature generally ranging from 90 to 95 degrees in the shade, though it seldom goes any hotter than that.

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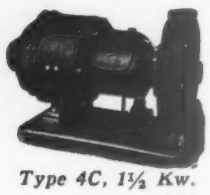

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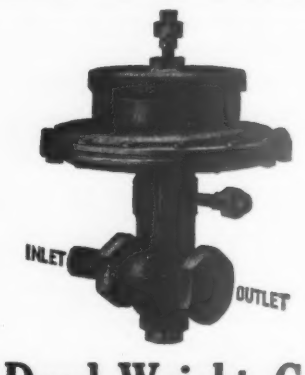

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Two of the most up-to-date hospitals on the continent are maintained by the International Petroleum Co. and are staffed by 6 gringo doctors, 5 white nurses and some 40 native nurses and attendants. The equipment includes a large modern X-ray treating and photographic apparatus, electrical sterilizers and a very complete supply of surgical instruments.

PLAN INSURANCE ON CALIFORNIA STORAGE

SAN FRANCISCO, Calif., July 31.—Efforts to bring the Oil Insurance Association into the California Field are expected to bear fruit soon and result in solution of what many oil men regard as a critical situation with regard to the large oil storage here.

It is estimated not more than 10 per cent to 15 per cent of the 150,000,000 bbls. of California oil in storage is protected by underwritings. The cause was cancellation of rieks following Union and Standard Oil storage farm fires and doubling of tankage oil rates and tripling of reservoir storage rates. Only a few companies have negotiated underwritings at the new rates, it is understood.

Many insurance companies have withdrawn entirely from California oil insurance field. Some of these will be brought back in the event the Oil Insurance Association underwritings are instituted.

Union Oil Co. of California has just been paid $5,594,684 by a group of underwriters, of which Hartford was the heaviest involved. Others in the settlement were reported to have been Queensland, New Hampshire, Duquesne, Underwriters, Globe & Rutgers, Home and London Underwriters.

The apparent seriousness of the California oil insurance situation is mitigated in part by the fact that Standard Oil of California has protected its storage oil by an insurance reserve fund of $10,000,000, which covers about 60,000,000 bbls. of the state's total storage. It would take other companies years to build up adequate insurance reserves, were the Standard Oil plan to be adopted.

GEOPHYSICAL TESTS IN LOUISIANA ACREAGE

NEW YORK, July 31.—In the Gulf Coast district to date nearly a dozen producing or potential salt domes have been uncovered by geophysical exploration and drilling is being conducted to have the drill test out for oil the favorable subsurface indications given by these methods.

The trend in this development work has been extended recently to a point where huge blocks of acreage are leased up for tests by the seismograph and torsion balance. Considerable of this work has been done by individaul operators who subsequently are joined by the major companies as partners.

One of the big holdings of acreage got under lease in this manner, is between 800,000 and 1,000,000 acres in southern Louisiana acquired by H. C. Hanszen of Houston and associates. Standard Oil of New York, through Magnolia Petroleum Co., is understood to have taken a 50 per cent interest in the holding. Four seismograph machines are being used to finecomb this acreage in the search for salt domes.

FIRE PROTECTIVE SYSTEM

The Associated Oil Co., according to the Bakersville Echo, is installing a fire protective system on its north Chester Avenue earthen reservoir. The company is installing special wiring over eight earthen reservoirs used for storage of oil. The wiring is for protection from lightning, and it is an auxiliary to the system of levee construction in progress. One of the grounding mediums will be an electric wire and the other a water pipe.

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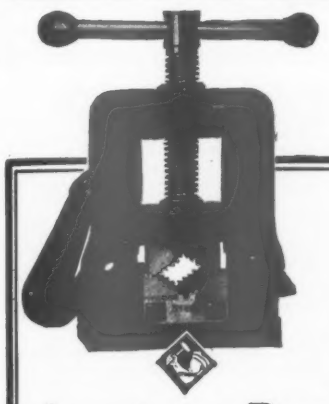

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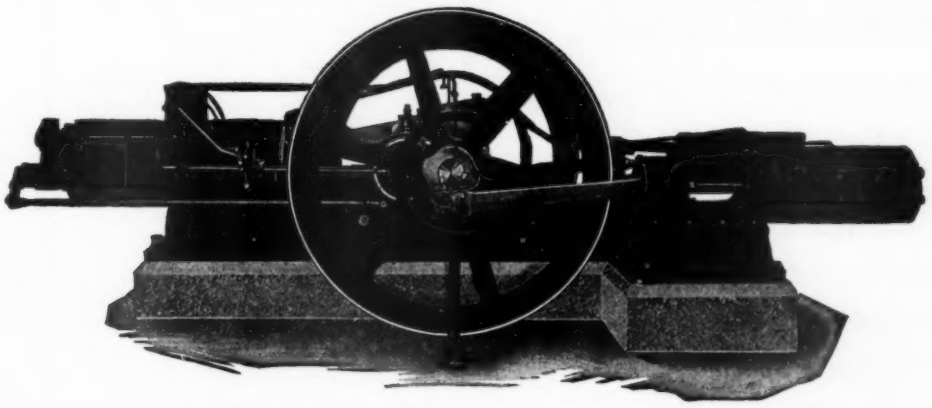

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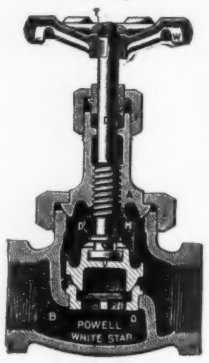

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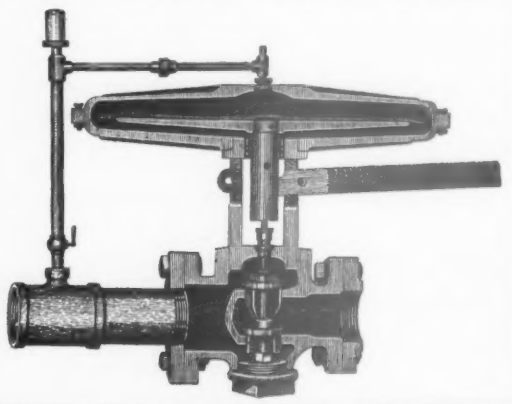

CALIFORNIA OUTPUT BY MAJOR COMPANIES

SAN FRANCISCO, Calif., July 31.—On July 1 the oil fields of California were producing 610,000 bbls. of crude oil daily, and of this total seven major companies were producing 409,000 bbls., or more than two-thirds of the state's yield. California production represents approximately 30 per cent of the entire oil yield of the country.

In addition to the production being currently taken, there were 55,795 bbls. of crude shut in, all heavy oil, and practically all of this represented production owned by these leading companies.

Standard Oil of California was easily in the lead in the matter of production, with total of 144,595 bbls. daily, this including yield of Pacific Oil Co.'s properties. This represented close to 25 per cent of the total production of the state while, in addition, Standard has just over 25,000 bbls. of production shut in, nearly 50 per cent of the state's shut-in production.

The next largest producer was the Shell Oil Co. of California, subsidiary of the Shell Union Oil Co., but its yield of 69,245 bbls. daily was less than 50 per cent of that of Standard Oil. The Shell company had 13,450 bbls. shut in. Associated Oil was third with 48,890 bbls. daily.

Below is a table giving in their order daily production of the seven largest producing companies in California, as of July 1, last:

	Bbls.
Standard Oil	144,595
Shell Co.	69,245
Associated	48,900
Union Oil of California	42,105
California Petroleum	40,910
General Petroleum	32,580
Pan American-Pet. Sec.	32,025
Miscellaneous	200,000
Total, July 1	609,440

In the above table, the production of Pan American Western Petroleum and that of the Petroleum Securities Corp. has been grouped. The Petroleum Securities is not owned by Pan American Western but is owned by E. L. Doheny and family, who are the principal owners of Pan American Western.

California's production is coming from 22 principal fields, but it is notable that only one of them, Long Beach, is above the 100,000-bbl. a day mark, while a few years ago there were at least four fields in the Los Angeles Basin which were yielding more than 200,000 bbls. daily. The second largest pool is the old Midway-Sunset, consisting of different pools in one district, which is producing more than 94,000 bbls. daily. In the Los Angeles Basin, some of the famous flush pools of several years ago are down to normal figures, Santa Fe Springs yielding just under 50,000 bbls. daily; Huntington Beach 44,000, Inglewood 49 000 and Rosecrans 17,000 bbls. Ventura-Newhall production has been stimulated by deep sand development and it is yielding 50,000 bbls. daily.

PIPELINE COMPANY TAKES TAX TO COURT

FRANKFORT, Ky., July 31.—The Cumberland Pipe Line Co. following the successful action of the Eastern Gulf Oil Co., filed suit in the United States District Court here against the State Tax Commissioner and State Auditor, W. H. Shanks to enjoin them from collecting and distributing the 1 per cent oil production tax under the act of 1918.

The tax was imposed upon the producers in 1917, but on account of the difficulty of collecting it, the act was amended the next year to hold the pipeline companies responsible for it. Since then it has been the practice of the companies to withhold the amount of the tax on the oil turned into their lines and pay it monthly to the state.

The Eastern Gulf brought suit on the ground that it was a common carrier and the tax was a burden on interstate commerce, Judge A. M. J. Cochran of the Eastern District Court sustained the company's contention, and the commonwealth will appeal. The decision does not affect the validity of the 1917 tax

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on oil production, which has been held up by the Kentucky Court of Appeals as a license tax.

The Cumberland Pipe Line Co., operates throughout Boyd, Lawrence, Floyd, Johnson, Magoffin, Morgan, Knott, Wolfe, Lee, Estill, Powell, Jackson, Menifee, Breathitt, Perry, Owsley, Clay, Laurel, Pulaski, McCreary and Wayne Counties, delivering, it alleges, 60 per cent of the oil to the Eureka Pipe Line Co. in West Virginia across Tug River from Lawrence County, where it is transported to eastern states.

RAILROAD CO. APPEALS OIL RATE DECISION

CINCINNATI, O., July 31.—The Atlantic Coast Line railroad has appealed to the United States court of appeals at Cincinnati from a decision of a lower court which granted the Standard Oil Co. of Kentucky an injunction preventing the road from charging interstate rates on shipments of petroleum products from Tampa to other Florida points. In the decision of the United States district court of Louisiana, the Standard Oil Co. also was awarded damages of $63,000 with interest on overcharges.

The case involves the oil which the Standard Oil Co. of Kentucky buys from the Standard Oil companies of New Jersey and Louisiana and ships to Florida by tankers. The railroad claims that although the oil does not enter the State by rail lines it originates out of the State and hence is an interstate shipment.

Until three years ago the railroads handled tank car shipments from the Standard Oil Co.'s storage plants under intrastate rates. Then the roads placed this oil, although shipped from storage plants in the state to other points in Florida, under interstate rates.

The lower court which granted the injunction to the oil company held that the storage points were established in the state not to change the nature of the shipments but to handle Florida business most advantageously.

NEW TURBINE ENGINE EXCITES THE BRITISH

After 20 years effort, Sir Charles Parsons, the well-known British engineer, is reported to have designed a new turbine engine which, it is averred, will enable steam to regain supremacy as the cheapest means of propelling all types of ships.

The improved turbine is supplied with steam of 500 pounds pressure, superheated to 700 degrees Fahrenheit, produced by water-tubed boilers, burning either coal or oil, and having an efficiency of 80 per cent to 85 per cent.

Up to the present the Diesel engine has been superior to the British turbine in that it can extract 18,000 British thermal units from oil, 4,000 more than its British rival. It is asserted that the new turbine, even using coal as fuel, will obtain thermal efficiency equal to that of the Diesel

British coal and shipping circles are awaiting the results of the final tests. One large shipping company is so optimistic it has decided to have several ships built immediately with engines constructed on the new principle. Success of the new turbine would mean a big demand for coal.

MARINE OIL ENGINES

WASHINGTON, July 31.—An increase in the figures of the power of various oil engines being built or installed in vessels throughout the world is reported by the Transportation Division of the Department of Commerce. The indicated horsepower of these engines at the close of the quarter ending June 30, was 782,216 compared with 733,496 at the end of the quarter ending March 31, 1926. For Great Britain and Ireland, the total horsepower of marine oil engines was 278,209. For all other countries combined, the horsepower of marine oil engines was 504,007.

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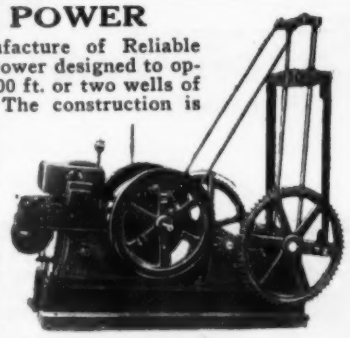
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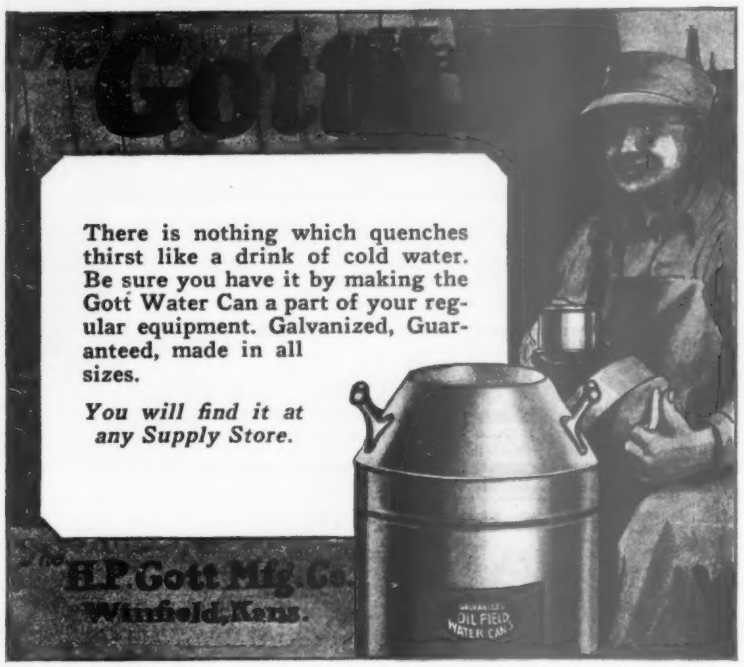
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AUTOMOBILE OUTPUT GREATER IN HALF YEAR

WASHINGTON, D. C., July 31.—Automobile production in June was 339,542 passenger cars and 44,033 trucks, excluding production in Canada on which figures are not available. Estimating 20,000 vehicles as Canadian production the combined United States and Canadian output would be 403,575 cars and trucks compared with 446,908 in May and 404,661 in June, 1925.

Following table compares monthly United States and Canadian passenger car output since 1923:

	1926	1925	1924	1923
Jan.	284,174	213,851	293,824	229,226
Feb.	335,658	253,955	343,460	260,881
March	399,389	334,214	357,045	332,157
April	403,850	393,262	346,405	349,474
May	396,168	384,548	286,324	360,743
June	357,042	366,510	225,079	346,059
July	.....	360,124	244,544	305,795
Aug.	.....	223,517	255,232	320,700
Sept.	.....	274,227	263,528	304,087
Oct.	.....	408,017	260,881	338,664
Nov.	.....	337,435	204,343	289,553
Dec.	.....	286,141	182,099	281,825
Total	.....	3,835,801	3,262,764	3,719,164

Following table compares monthly commercial vehicle output since 1923:

	1926	1925	1924	1923
Jan.	32,738	28,203	30,785	20,534
Feb.	40,888	34,482	32,974	23,143
March	48,708	45,180	36,506	35,016
April	53,304	47,984	38,037	38,640
May	50,740	45,719	35,408	44,125
June	46,533	38,151	29,135	40,639
July	.....	41,870	26,448	30,139
Aug.	.....	37,850	28,714	30,335
Sept.	.....	60,482	32,015	28,160
Oct.	.....	46,013	32,533	20,238
Nov.	.....	40,048	27,956	28,639
Dec.	.....	34,488	27,596	28,680
Total	.....	500,461	378,106	379,288

GUATEMALA EXPORTS OF OIL INCREASING

WASHINGTON, D. C., July 31.—There has been an increase in the imports of all petroleum products at Guatemala in 1925; and the increase has been progressive since 1923, except in the case of crude oil and lubricating greases which showed small decreases in 1924, according to consular advices to the Department of Commerce from Guatemala.

The most decided increase has been in "refined petroleum," the classification given by the local customs statistics to fuel oil. The imports so listed consisted of fuel oil for the International Railways of Central America. A strong and continuous increase in gasoline imports is noted in this country as in most others.

Imports of crude petroleum totaled 51,802,291 kilos in 1925, compared with 28,135,084 kilos in 1924. Receipts of gasoline rose to 3,340,089 kilos in 1925 from 1,509,867 kilos in the preceding year. Imports of "refined petroleum" rose to 11,948,688 kilos in the past year from the figure of 2,169,842 kilos received in 1924. The United States was the principal source of all those imports.

GERMAN BOOK ON OIL

DIE ERDOLWIRTSCHAST DER WELT—By Dr. Karl Kruger and G. R. Poschardt. Published by E. Schweizerbart, Stuttgart, Germany, 1926. Illustrated, 493 pages. This book, international in treatment, is a most complete resume of the industry. It covers the field very thoroughly including geology, production, transportation, refining, distribution and many phases of consumption. Not highly technical, rather the opposite, written in an interesting and careful manner by men who undoubtedly are familiar with and experienced in the business, they present a great mass of data concerning the problems and growth of the industry. Space is given to every important oil field of the world. The special and peculiar problems of individual fields are discussed and are accompanied by many pictures and maps. It includes much interesting information having to do with the legal and political side of the petroleum industry in foreign countries, especially as to leases and concessions. The authors have evidently spared no pains or time in securing the extensive data and information. The patience required for this is equaled by its interesting presentation.

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WHAT AND WHERE TO BUY

A Classified Index of Advertisers in This Publication

For Alphabetical Index See Page 17

A

Absorption Plant Equipment—
American Radiator Co.
Braun, C. F., & Co.
Campbell, J. A.
Cooper, C. & G., Co.
Griscom-Russell Co.
National Gas Products Co.
Newton Process Mfg. Co.
Ross Heater & Mfg. Co., Inc.
Southwestern Engineering Co., Inc.
Southwestern Engineering Corp.

Absorption Towers—
Hope Engineering & Supply Co.
National Gas Products Co.
Newton Process Mfg. Co.

Acetylene Apparatus—
Oxweld Acetylene Co.

Acetylene—Dissolved—
Prest-O-Lite Co., Inc.

Acetylene in Cylinders—
Prest-O-Lite Co., Inc.

Agitators—
Chicago Bridge & Iron Works.
Kaw Steel Construction Co.
Petroleum Iron Works Co.

Alloy Steel (See Steel—Alloy)—

All-Steel Drilling Rigs (See Rigs)

Aluminum Bronze Powder for Paint—
Aluminum Co. of America.

Ammonia—
Mathieson Alkali Works, Inc.

Anchor Clamps (See Clamps)—

Antimonial Leads—
Eagle-Picher Lead Co.

Apparatus—Electric—
Westinghouse Electric & Mfg. Co.

Apparatus—Meter Control—
Westinghouse Electric & Mfg. Co.

Appraisers—
American Appraisal Co.

Arches—Flat Suspended—
Brady Conveyor Corp.

B

Babbitts—
Eagle-Picher Lead Co.
National Lead Co.
Ryerson, Jos. T., & Sons, Inc.

Back Up Tongs (See Tongs)—

Bailers—
Oil Well Supply Co.
Spang & Co.

Balls and Seats—
Axelson Machine Co.
Hough, Charles N., Mfg. Co.
Norris Brothers, Inc.
Northrup Equipment Co.

Balls—Bronze—
Atlas Ball Co.
Hoover Steel Ball Co.

Balls—Steel—
Atlas Ball Co.
Hoover Steel Ball Co.
Strom Steel Ball Co.

Band Wheels—Steel—
International Derrick & Equipment Co.
Marion Mch., Fdy. & Supply Co.
Moore, Lee C., & Co., Inc.
Parkersburg Rig & Reel Co.

Barrels—
Petroleum Iron Works Co.

Barytes—
National Pigment & Chemical Co.

Batteries—
National Carbon Co.

Bearings—Roller—
American Roller Bearing Co.
Timken Roller Bearing Co.

Bearings—Thrust—
Timken Roller Bearing Co.

Belting—
Bridgeport Machine Co.
Continental Supply Co.
Fenwick-Reddaway Mfg. Co.
Frick-Reid Supply Co.
Imperial Belting Co.
International Supply Co.
Murray Rubber Co.
Stanley Belting Corp.

Belting—Rubber—
Bovaird Supply Co.
Goodyear Tire & Rubber Co.
United States Rubber Co.

Bits—Disc—
U. S. Tool Co.

Bits—Fish Tail—
Federal Supply Co.
Lucey Mfg. Corp.

Bits—Rotary Disc—
Hughes Tool Co.

Bits—Rotary Rock—
Hughes Tool Co.
Reed Roller Bit Co.

Bit Steel (See Steel—Bit)—

Bleaching Powder—
Mathieson Alkali Works, Inc.

Blow-Off Valves (See Valves)—

Blowout Preventer—
Regan Forge & Engineering Co.
Stearns-Roger Mfg. Co.

Blowpipes—
Oxweld Acetylene Co.

Boiler Feed Pumps (See Pumps)

Boilers—Horizontal Return Tubular—
Brownell Co., The
Kewanee Boiler Co.
Vogt, Henry, Machine Co.

Boilers—Oil Country—
Bovaird & Seyfang Mfg. Co.
Bridgeport Machine Co.
Brownell Co., The
Coatesville Boiler Works.
Continental Supply Co.
Donovan Boiler Works.
Frick-Reid Supply Co.
International Supply Co.
Kewanee Boiler Co.
Lucey Mfg. Co.
National Supply Co.
Oil Well Supply Co.
Pattin Bros. Co.
Republic Supply Co.
Titusville Iron Works.

Bolted Tanks (See Tanks)—

Bolts and Nuts—
Sheffield Steel Corp.

Bolt Threading Machines—
Landis Machine Co.

Bottles—Glass—
Illinois Glass Co.

Box and Pin Steel—
Andrews Steel Co.
Heppenstall Forge & Knife Co.

Braces—Tool—
Dunn Mfg. Co.

Briquette Machines—
Porter & Company.
Simplex Equipment Co.

Bronze Valves (See Valves—Brass and Bronze)—

Buildings—Metals, Sectional (All Types)—
Austin Co.
Blaw-Knox Co.
Braden Co.
Butler Mfg. Co.
International Derrick & Equipment Co.
Marion Mch., Fdy. & Supply Co.
Truscon Steel Co.

Bulk Station Tanks (See Tanks)—

Bull Ropes—
Ajax Rope Co.
Columbian Rope Co.
Plymouth Cordage Co.
Wall Rope Works, Inc.

Bull Wheels—Steel—
International Derrick & Equipment Co.
Marion Mch., Fdy. & Supply Co.
Moore, Lee C., & Co., Inc.
Parkersburg Rig & Reel Co.

Burners—Gas—
Eureka Burner Co.
Okmulgee Boiler & Welding Works.

Burners—Oil—
Continental Supply Co.
Reid, Joseph, Gas Engine Co.

Bushings—Rotary Drive—
Wilson Oil Tools Corp.

C

Cable Bit Steel—
Andrews Steel Co.
Federal Supply Co.
Heppenstall Forge & Knife Co.

Cables—Drilling, Manila—
Ajax Rope Co., Inc.
Columbian Rope Co.
Continental Supply Co.
Frick-Reid Supply Co.
Plymouth Cordage Co.
Wall Rope Works, Inc.

Cables—Steel—
Ajax Rope Co., Inc.
American Cable Co.
Black Steel & Wire Co.
Broderick & Bascom Rope Co.
Continental Supply Co.
Frick-Reid Supply Co.
Hazard Mfg. Co.
Leschen, A., & Sons Rope Co.
Murray Tool & Supply Co.
National Supply Co.
Republic Supply Co.
Wickwire-Spencer Steel Corp.
Williamsport Wire Rope Co.

Calf Rope—
Ajax Rope Co., Inc.

Calf Wheels—Steel—
International Derrick & Equipment Co.
Moore, Lee C., & Co., Inc.

Cannon—Oil Field—
Braden Co.

Cans—Water—
Gott, H. P., Mfg. Co.

Capping Steel—
Andrews Steel Co.

Carbon—Black Diamond—
Diamond Drill Carbon Co.
Patrick, R. S.

Cars—Tank—
American Car & Foundry Co.
General American Tank Car Corp.
Shippers' Car Line, Inc.

Cars—Tank, Leased—
American Car & Foundry Co.
North American Car Co.
Shippers' Car Line, Inc.

Casing—
Bovaird Supply Co.
Central Tube Co.
Continental Supply Co.
Emsco Derrick & Equip. Co.
Jarecki Mfg. Co.
National Supply Co.
National Tube Co.
Republic Iron & Steel Co.
South Chester Tube Co.
Spang, Chalfant & Co., Inc.
Superior Tube Co.
Wheeling Steel Corp.

Casing—Wrought Iron—
Byers, A. M., Co.
Reading Iron Co.
South Chester Tube Co.

Casing Elevators (See Elevators, Casing and Tubing)—

Casing Heads—
Arbon, Paul, & Co.
Dresser, S. R., Mfg. Co.
Kansas City Hay Press Co.
Oil Well Improvements Co.

Casing Lines—
Ajax Rope Co., Inc.
Hazard Mfg. Co.

Casing Shoes—
Baker Casing Shoe Co.
Bartlesville Supply Co.
Bridgeport Machine Co.
Guiberson Corp.
Oil Well Supply Co.

Castings—Alloy Steel—
Ohio Steel Foundry Co.
Sivyer Steel Casting Co.

Castings—Brass—
Progressive Brass Mfg. Co.

Castings—Chrome Nickel Steel—
Sivyer Steel Casting Co.

Castings—Corrosion Resisting Non-Ferrous—
Hills-McCanna Co.

Castings—Electric Steel—
Ohio Steel Foundry Co.
Sivyer Steel Casting Co.

Castings—Grey Iron—
Ajax Iron Works.
American Car & Foundry Co.
Gaso Pump & Burner Mfg. Co.
Pittsburgh Boiler & Machine Co.

Castings—Steel—
Ajax Iron Works.
Chicago Steel Foundry Co.
Ohio Steel Foundry Co.
Sivyer Steel Casting Co.

Cement—Fire and High Temperature—
Botfield Refractories Co.
General Insulating & Mfg. Co.

Chains—Conveying—
Chain Belt Co.
Link-Belt Co.

Chains—Oil Well—
Baldwin Chain & Mfg. Co.
Chain Belt Co.
Link-Belt Co.

Chains—Power Transmission—
Baldwin Chain & Mfg. Co.
Chain Belt Co.
Link-Belt Co.

Chemical Treatment Crude Oil Emulsion—
Barnickel, Wm. S., & Co.

Chlorine—Liquid—
Mathieson Alkali Works, Inc.

Circulating Heads—
Wilson Oil Tools Corp.

Clamps—Anchor—
Bartlesville Supply Co.

Clamps—Belt—
Federal Supply Co.

Clamps—Collar Leak—
Dayton Pipe Coupling Co.
Dresser, S. R., Mfg. Co.

Clamps—Drilling—
Western Supply Co.

Clamps—Hoisting—
Newton Process Mfg. Co.

Clamps—Pipe—
Dayton Pipe Coupling Co.
Dresser, S. R., Mfg. Co.
Wheatley Bros. Machine Works.

Clamps—River—
Dresser, S. R., Mfg. Co.
Gaso Pipe & Burner Mfg. Co.

Cloths—Wiping—
Nye Tool & Machine Works.

Clutches—Friction, Plate Type—
Twin Disc Clutch Co.

Cocks—Brass & Iron—
Lunkenheimer Co.
Walworth Co.

Cocks—Plug—
Homestead Valve Mfg. Co.

Cocks—Water Gauge—
Shaffer, J. E., Co.
Smith Separator Co.

Coils and Bends—Pipe—
Harrisburg Pipe & Pipe Bending Co.
Midwest Piping Supply Co.

Compounds—Boiler—
Dearborn Chemical Co.

Compounds—Joint Sealing—
Key Boiler Equipment Co.

Compressed Air Process—
Air Cleaning & Reaming Corp.

Compressor Cylinders (See Cylinders—Compressor)—

Compressors—Air—
Bessemer Gas Engine Co.
Clark Brothers Co.
Cooper, C. & G., Co.
Gardner Governor Co.
Ingersoll-Rand Co.
Sullivan Machinery Co.

Compressors—Ammonia—
Carbondale Machine Co.
Cooper, C. & G., Co.

Compressors—Direct Connected Motor and Gas Engine Driven
Buffalo Gasolene Motor Co.
Clark Brothers Co.
Cooper, C. & G., Co.
Miller Improved Gas Engine Co.

Compressors—Direct Driven Air and Gas—
Bessemer Gas Engine Co.
Miller Improved Gas Engine Co.

Compressors—Gas—
Bessemer Gas Engine Co.
Chicago Pneumatic Tool Co.
Clark Brothers Co.
Cooper, C. & G., Co.
Hope Engineering & Supply Co.
Ingersoll-Rand Co.
National Transit Pump & Machine Co.
Worthington Pump & Machinery Corp.

Compressors—Oil—Coke—
Porter & Company.

Condenser Boxes—
Kaw Steel Construction Co.
Petroleum Iron Works Co.

Condensers—
American Radiator Co.
Chicago Pneumatic Tool Co.
National Gas Products Co.
Ross Heater & Mfg. Co.
Southwestern Engineering Co., Inc.
Southwestern Engineering Corp.

Controllers—Automatic—
Brown Instrument Co.

Controllers—Liquid Level—
Fisher Governor Co., Inc.
Newton Process Mfg. Co.
Smith Separator Co.

Controllers—Pressure—
Smith Separator Co.

Controllers—Temperature—
Foxboro Co., Inc.

Conveying & Elevating Machinery
Brady Conveyors Corp.

Conveyors—Bucket and Belt—
Brady Conveyors Corp.

Conveyors—Pneumatic—
Brady Conveyors Corp.

Conveyors—Portable Belt—
Barber-Greene Co.

Cooling Towers—Atmospheric—
Braun, C. F., & Co.
National Gas Products Co.

Cordage—
Bridgeport Machine Co.
International Supply Co.
Plymouth Cordage Co.

Core Drilling—
Longyear, E. J., Co.
Mineral Exploration Co.

Core Drills—
Elliott Core Drilling Co.

Core Drills—Diamond—
Longyear, E. J., Co.
Sullivan Machinery Co.

Coring Tools—
Reed Roller Bit Co.
Wilson Oil Tools Corp.

Couplings—Flexible—
Nuttall, R. D., & Co.
Victaulic Co. of America.

Couplings—Plain End Pipe—
Dayton Pipe Coupling Co.
Dresser, S. R., Mfg. Co.

Couplings—Seamless Steel—
Harrisburg Pipe & Pipe Bending Co.
Superior Tube Co.

Couplings—Steel for Casing, Line Pipe, Drill Pipe and Tubing—
Dayton Pipe Coupling Co.
Smith, A. O., Corp.

Cracking Processes—
Graver Corp.
Kellogg, M. W., Co.
Universal Oil Products Co.

Crawler Treads—
Belle City Mfg. Co.
Full Crawler Co.

Crown Blocks—
International Derrick & Equipment Co.
Lucey Mfg. Corp.
Moore, Lee C., & Co., Inc.
Parkersburg Rig & Reel Co.

Cups—Composition—
Williamsport Development Co.

Cups—Leather—
Auer, C. A.

Cutters—Pipe—
Borden Co.
Nye Tool & Machine Works.
Trimont Mfg. Co.

Cylinders—Compressor—
Hope Engineering & Supply Co.

Cylinder Stocks—
Barnsdall Refining Co.
Pure Oil Co.
Texas Company, The.

D

Dehydrating Process—
Barnickel, Wm. S., & Co.

Dephlegmators—
Graver Corp.
National Gas Products Co.
Newton Process Mfg. Co.
Smith, A. O., Corp.

Depletion Reports—
American Appraisal Co.

Derricks—Steel—
Emsco Derrick & Equip. Co.
International Derrick & Equipment Co.
Marion Mch., Fdy. & Supply Co.
Moore, Lee C., & Co., Inc.
O'Brien Steel Construction Co.
Parkersburg Rig & Reel Co.
Superior Tube Co.

Derricks—Turnbuckle—
National Turnbuckle Derrick Co.

Diamonds for Core Drilling (See Carbon—Black Diamond)—

Die Heads—Automatic—Screw Cutting—
Landis Machine Co.

Die Heads—Bolt Threading—
Bignall & Keeler Mch. Works.
Landis Machine Co.

Die Heads—Stationary Pipe Threading—
Bignall & Keeler Mch. Works.
Cox & Sons Co., The.
Landis Machine Co.

Diesel Engines (See Engines)—

Dies—Pipe Threading—
Bignall & Keeler Mch. Works.
Cox & Sons Co., The.
Landis Machine Co.
Nye Tool & Machine Works.

Direct Driven Pumps (See Pumps)

Disc Bits (See Bits—Disc)—

Dissolved Acetylene (See Acetylene)—

Ditchers—Pipe Line—
Barber-Greene Co.
Buckeye Traction Ditcher Co.

Draw Works—
Lucey Mfg. Corp.
National Supply Co.
Titusville Iron Works Co.

Drillers Hose (See Hose)—

Drilling and Fishing Tools—
Acme Fishing Tool Co.
Baash-Ross Tool Co.
Bovaird & Seyfang Mfg. Co.
Bovaird Supply Co.
Bridgeport Machine Co.
Brown Tool Co., Inc.
Burns Tool Co.
Continental Supply Co.
Cushing, Tim, Tool & Supply Co.
Emsco Derrick & Equip. Co.
General Oil Tools Co.
Hinderliter Tool Co.
Hughes Tool Co.
International Supply Co.
Larkin & Co.
Leidecker Tool Co.
Lucey Mfg. Corp.
Murray Tool & Supply Co.
Oil Well Supply Co.
Reed Roller Bit Co.
Regan Forge & Engineering Co.
Spang & Co.
Star Drilling Machine Co.
U. S. Tool Co.

Drilling Engines (See Engines)—

Drilling Equipment—
Clark Brothers Co.
Hughes Tool Co.
O'Brien Steel Construction Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Reed Roller Bit Co.
Star Drilling Machine Co.

Drilling Machines—
Leidecker Tool Co.
Oil Well Supply Co.
Star Drilling Machine Co.

Drilling Tools (See Drilling and Fishing Tools)—

Drilling Valves (See Valves)—

Drills—Portable Air—
Chicago Pneumatic Tool Co.

Drive Shoes—
Bartlesville Supply Co.
Larkin & Co.

Drop-Forged Wrenches (See Wrenches)—

Drops and Seats—
Norris Brothers, Inc.

Drums (See Barrels)—

Dynamos—
Westinghouse Electric & Mfg. Co.

E

Ejectors—
Penberthy Injector Co.

Electrical Equipment—
Fairbanks-Morse & Co.
Pyle National Co.
Wico Electric Co.

Electrical Apparatus (See Apparatus—Electric)—

Electric Drilling Equipment—
Lucey Mfg. Corp.
Westinghouse Electric & Mfg. Co.

Electric Steel Castings (See Castings—Electric—Steel)—

Elevators—Casing and Tubing—
Bovaird Supply Co.
Bridgeport Machine Co.
Dunn Mfg. Co.
Lucey Mfg. Corp.
Oil Well Supply Co.
Wilson Oil Tools Corp.

Elevators—Rod—
B. & A. Specialty Co.
D. & B. Pump & Supply Co.
Dunn Mfg. Co.

Enamels—
Arco Company, The.
Detroit Graphite Co.
Sherwin-Williams Co.

Engineers—Consulting and Contracting—
Brooks Engineering Corp.
Hope Engineering & Supply Co.
Kellogg, M. W., Co.
McKee, Arthur G., & Co.
National Petroleum Engineering Corp.
Power Specialty Co.
Westcott & Greis.
Widdell Engineering Co.

Engineers—Fire Protection—
Brooks Engineering Corp.
Foamite-Childs Corp

Engineers—Oil Buildings—
Austin Co.
International Derrick & Equipment Co.
Engineers—Oil Mining—
Ranney Oil Mining Co.
Engineers—Oil Treating—
Barnickel, Wm. S., & Co.
National Gas Products Co.
Engines—Crude Oil—
Continental Supply Co.
Western Machinery Co.
Engines—Diesel—
Bessemer Gas Engine Co.
Busch-Sulzer Bros. Diesel Engine Co.
Foos Gas Engine Co.
McIntosh & Seymour Corp.
Western Machinery Co.
Worthington Pump & Machinery Corp.
Engines—Drilling—
Ajax Iron Works
Beaver Manufacturing Co.
Bessemer Gas Engine Co.
Bovaird & Seyfang Mfg. Co
Brownell Co., The
Buda Co.
Buffalo Gasolene Motor Co.
Clark Bros. Co.
Climax Engineering Co.
Franklin Valveless Engine Co.
Hercules Motor Corp.
Pattin Bros. Co.
Power Mfg. Co.
Republic Supply Co.
Titusville Iron Works Co.
Engines—Gas—
Beaver Manufacturing Co.
Bessemer Gas Engine Co.
Bruce-MacBeth Engine Co.
Buda Co.
Buffalo Gasolene Motor Co.
Chicago Pneumatic Tool Co.
Clark Brothers Co.
Climax Engineering Co.
Continental Supply Co.
Cooper, C. & G., Co.
Emsco Derrick & Equipment Co.
Foos Gas Engine Co.
Franklin Valveless Engine Co.
Frick-Reid Supply Co.
Hope Engineering & Supply Co.
Ingersoll-Rand Co.
International Supply Co.
Jones, S. M., Co.
Marion Mch. Fdy. & Supply Co.
Miller Improved Gas Engine Co.
National Supply Co.
National Transit Pump & Machine Co.
Oil Well Supply Co.
Pattin Bros. Co.
Reid, Joseph, Gas Engine Co.
Titusville Iron Works Co.
Waukesha Motor Co.
Western Machinery Co.
Engines—Gasoline—
Beaver Manufacturing Co.
Buda Co.
Buffalo Gasolene Motor Co.
Continental Motors Corp.
Fairbanks-Morse & Co.
Hercules Motor Corp.
International Harvester Co. of America.
Waukesha Motor Co.
Western Machinery Co.
Engines—Oil—
Bessemer Gas Engine Co.
De La Vergne Machine Co.
Fairbanks-Morse & Co.
Frank Valveless Engine Co.
Ingersoll-Rand Co.
International Harvester Co. of America.
McIntosh & Seymour Corp.
National Supply Co.
Oil Well Supply Co.
Power Mfg. Co.
Reid, Joseph, Gas Engine Co.
Western Machinery Co.
Engines—Semi-Diesel, Oil—
Chicago Pneumatic Tool Co.
Engines—Steam—
Ajax Iron Works
Frick-Reid Supply Co.
Lucey Mfg. Corp.
National Supply Co.
Oil Well Supply Co.
Evaporators—
Newton Process Mfg. Co.
Ross Heater & Mfg. Co., Inc.
Extinguishers—Fire—
Foamite-Childs Corp.

F

Fabricators for Gasoline Plants and Refineries—
National Gas Products Co.
Stearns-Roger Mfg. Co.
Filters—Oil—
Burt Mfg. Co.
Fishing Tools (See Drilling and Fishing Tools)—
Fittings—Dropped Forged Steel—
Vogt, Henry, Machine Co.
Fittings—Forged Steel
Central Forging Co.
Fittings—Malleable & Cast Iron—
Bovaird Supply Co.
Crane Co.
Frick-Reid Supply Co.
Walworth Co.
Fittings—Pipe—
Dayton Pipe Coupling Co.
Dresser, S. R., Mfg. Co.
Gaso Pump & Burner Mfg. Co.
Jarecki Mfg. Co.
Kellogg, M. W., Co.
Kennedy Valve Mfg. Co.
Metric Metal Works.
Oil Well Supply Co.
Reading Steel Casting Co.
Republic Supply Co.
United Iron Works, Inc.
Victaulic Co. of America.
Walworth Co.
Fittings—Steel—
Dayton Pipe Coupling Co.
Kerotest Mfg. Co.
Ohio Steel Foundry Co.
Walworth Co.
Flanges—Brass, Iron and Steel—
Jefferson Union Co.
Metric Metal Works.
Walworth Co.
Flange Unions—
Gaso Pump & Burner Mfg. Co.
Wheatley Bros. Machine Works
Flashlights—
National Carbon Co.
Floating Roofs and Decks—
Chicago Bridge & Iron Works.
Floodlights—
Pyle-National Co.
Forging Billets—
Andrews Steel Co.
Harrisburg Pipe & Pipe Bending Co.
Heppenstall Forge & Knife Co.
Forgings—
Champion Machine & Forging Co.
Fuel Oil (See Oil—Fuel)—
Fuller's Earth—
Sinclair Refining Co.

G

Gas Holders—
Chicago Bridge & Iron Works.
Gaskets—
Garlock Packing Co.
McCord Radiator & Mfg. Co.
Gaskets—Fibre—
Durabla Mfg. Co.
Gas Masks & Safety Appliances—
Mine Safety Appliance Co.
Gasoline—
Crown Central Petroleum Co.
Empire Refineries, Inc.
Gulf Refining Co.
Magnolia Petroleum Co.
Pure Oil Co.
Sinclair Refining Co.
Skelly Oil Co.
Gasoline—Natural—
Chestnut & Smith Corp.
National Gas Products Co.
Skelly Oil Co.
Warren Petroleum Co.
Gasoline Plant Equipment—
Bessemer Gas Engine Co.
Clark Brothers Co.
Kellogg, M. W., Co.
McKee, Arthur G., & Co.
National Gas Products Co.
Newton Process Mfg. Co.
Ross Heater & Mfg. Co., Inc.
Widdell Engineering Co.
Gas Regulator Casinghead—
Davis, G. M., Regulator Co.
National Gas Products Co.
Gas Scrubbers—
National Gas Products Co.
Newton Process Mfg. Co.
Gauge Glass—High Pressure—
Durabla Mfg. Co.
Gauge Poles—
Marsh Gauge Pole Co.
Missouri Woodworking Co.
Gauges—Automatic Tank—
Brooks Engineering Co.
Gauges—Draft—
Brown Instrument Co.
Gauges—Oil—
Penberthy Injector Co.
Gauges—Pressure and Vacuum—
Bristol Co.
Brown Instrument Co.
Equitable Meter & Mfg. Co.
Metric Metal Works.
Gauges—Test—
Equitable Meter & Mfg. Co.
Metric Metal Works.
Gear Driven Pumps (See Pumps)
Gears—Cut—
Nuttall, R. D., & Co.
Gears—Reduction—
Emsco Derrick & Equipment Co.
Nuttall, R. D., & Co.
Gears—Reverse—
Emsco Derrick & Equipment Co.
Generators—
Westinghouse Electric & Mfg. Co.
Generators—Acetylene—
Oxweld Acetylene Co.
Generators—Turbine—
Moon Manufacturing Co.
Pyle-National Co.
Westinghouse Electric & Mfg. Co.
Glassware—Chemical for Laboratory Use—
Illinois Glass Co.
Governors—
Equitable Meter & Mfg. Co.
Gardner Governor Co.
Governors—Boiler Feed—
Chaplin-Fulton Mfg. Co.
Fisher Governor Co.
Grating—Steel—
Blaw-Knox Co.
Grey Iron Castings (See Castings)

H

Hammers—Chipping and Caulking Pneumatic—
Chicago Pneumatic Tool Co.
Hammers—Riveting Pneumatic—
Chicago Pneumatic Tool Co.
Hangers—Iron and Steel—
Continental Supply Co.
Dodge Mfg. Corp.
Hangers—Tubing—
Hercules Tool Co.
Hatches—Gauges and Thief—
Oil Conservation Engineering Co.
Heat Exchangers—
Carbondale Machine Co.
Griscom-Russell Co.
Hope Engineering & Supply Co.
National Gas Products Co.
Newton Process Mfg. Co.
Ross Heater & Mfg. Co.
Southwestern Engineering Co., Inc.
Southwestern Engineering Corp.
Heat Interchangers—Fluid—
Braun, C. F., & Co.
Ross Heater & Mfg. Co., Inc.
Hoists—Pneumatic, Geared and Universal—
Chisholm-Moore Mfg. Co.
Yale & Towne Mfg. Co.
Hoists—Portable—
Chisholm-Moore Mfg. Co.
Ford Chain Block Co.
Sullivan Machinery Co.
Wright Mfg. Co.
Yale & Towne Mfg. Co.
Hooks for Rods and Tubing—
B. & A. Specialty Co.
Dunn Mfg. Co.
Hose—
Fenwick-Reddaway Mfg. Co.
Hose—Drillers—
Goodrich, B. F., Rubber Co.
United States Rubber Co.
Hose—Oil Suction and Discharge
Goodrich, B. F., Rubber Co.
United States Rubber Co.
Hose—Rubber—
Goodyear Tire & Rubber Co.
United States Rubber Co.
Hypochlorite of Lime—
Mathieson Alkali Works, Inc.

I

Injectors—
Penberthy Injector Co.
Inspectors—Pipe—
Hunt, Robert W., Co.
Insulation Materials—
Celite Products Co.
General Insulating & Mfg. Co.
Johns-Manville, Inc.
Insurance—Fire—
Oil Insurance Association
Insurance—Tornado—
Oil Insurance Association.
Iron—Ingot—
American Rolling Mill Co.

J

Jacks—Hydraulic—
Bridgeport Machine Co.
Jacks—Lifting—
Templeton, Kenly & Co., Ltd.
Jacks—Pumping—
American Mfg. Co. of Texas.
American Wells Works.
Bessemer Gas Engine Co.
Braden Co.
Frick-Reid Supply Co.
Jones, S. M., Co.
Kansas City Hay Press Co.
Norris, W. C.
Spang & Co.
Jars—
Arbon, Paul, & Co.
Bridgeport Machine Co.
Spang & Co.
Jar Steel—
Andrews Steel Co.
Heppenstall Forge & Knife Co.

K

Kerosene—
Empire Refineries, Inc.
Gulf Refining Co.
Magnolia Petroleum Co.
Pure Oil Co.

L

Lacquers—
Arco Company, The
Sherwin-Williams Co.
Lanterns—Electric—
Delta Electric Co.
Lead and Mixed Metal Products—
Eagle-Picher Lead Co.
National Lead Co.
Lead in Oil—
Eagle-Picher Lead Co.
National Lead Co.
Lead Wool and Containers—
Eagle-Picher Lead Co.
Lighting Equipment—
Pyle National Co.
Westinghouse Electric & Mfg. Co.
Litharge—
Eagle-Picher Lead Co.
National Lead Co.
Loaders—Trucks—
Barber-Greene Co.
Long Distance Telephone—
American Telephone & Telegraph Co.
Lubricating Devices—
McCord Radiator & Mfg. Co.
Lubricators—
Ajax Iron Works.
Lunkenheimer Co.
Lubricators—Force Feed—
Hills-McCanna Co.
McCord Radiator & Mfg. Co.
Mansel Brothers Co.

M

Machine Tools—
Ryerson, Jos. T., & Sons, Inc.
Manholes—Tank—
Brooks Engineering Corp.
Manifolds—
Reid, Joseph, Gas Engine Co.
Meters—Gas—
Equitable Meter & Mfg. Co.
Foxboro Co., Inc.
Metric Metal Works.
Pittsburgh Meter Co.
Roots, P. H. & F. M., Co.
Westcott & Greis.
Meters—Electric—
Brown Instrument Co.
Meters—Gasoline—
Pittsburgh Meter Co.
Meters—Oil—
Pittsburgh Meter Co.
Molded Goods—Rubber—
Goodyear Tire & Rubber Co.
Motors—Electric—
Fairbanks-Morse & Co.
Westinghouse Electric & Mfg. Co.
Motors—Gasoline (See Engines—Gasoline)—

N

Naphtha—
Pure Oil Co.
Natural Gasoline (See Gasoline—Natural)—
Natural Gasoline Plant Equipment
Campbell, J. A.
Cooper, C. & G. Co.
Griscom-Russell Co.
National Gas Products Co.
Roots, P. H. & F. M., Co.
Ross Heater & Mfg. Co., Inc.
Smith Separator Co.
Westcott & Greis.
Nitrogen—
Linde Air Products Co.
Nozzles—Spray—
Power Plant Equip. Co.

O

Oil and Gas Pipe Line Construction—
Hope Engineering & Supply Co.
Oil Burners (See Burners—Oil)—
Oil Field Equipment—
Baker Casing Shoe Co.
Bridgeport Machine Co.
Gaso Pump & Burner Mfg. Co.
International Derrick & Equipment Co.
Iron King Mfg. Co.
Kaw Steel Construction Co.
National Supply Co.
Oil Well Supply Co.
Parkersburg Machine Co.
Parkersburg Rig & Reel Co.
Reed Roller Bit Co.
Regan Forge & Engineering Co.
Reid, Joseph, Gas Engine Co.
Republic Supply Co.
Simplex Equipment Co.
Trumble Gas Trap Co.
Oil—Fuel—
Crown Central Petroleum Corp.
Empire Refineries, Inc.
Gulf Refining Co.
Magnolia Petroleum Co.
Pure Oil Co.
Sinclair Refining Co.
Texas Company, The
Oil—Gas—
Crown Central Petroleum Corp.
Gulf Refining Co.
Pure Oil Co.
Sinclair Refining Co.
Texas Company, The
Oil—Lubricating—
Barnsdall Refining Co.
Crown Central Petroleum Corp.
Empire Refineries, Inc.
Gulf Refining Co.
Humble Oil & Refining Co
Magnolia Petroleum Co.
Pure Oil Co.
Sinclair Refining Co.
Skelly Oil Co.
Texas Company, The
Oil—Tractor—
Barnsdall Refining Co.
Gulf Refining Co.
Pure Oil Co.
Skelly Oil Co.
Oiling Devices—
Lunkenheimer Co.
Oil Meters (See Meters)—
Oil Piping Equipment (See Fittings)—
Oil Reclaiming Process—
Barnickel, Wm. S., & Co.
Houston Pump & Supply Co.
Oil Well Cementing—
Halliburton Oil Well Cementing Co.
Oil Well Tools—
D & B Pump & Supply Co.
Hinderliter Tool Co.
Reed Roller Bit Co.
Titusville Forge Co.
U. S. Tool Co.
Over Shots—
Reed Roller Bit Co.
Regan Forge & Engineering Co.
Oxygen—
Linde Air Products Co.

P

Packer Release—
Acme Fishing Tool Co.
Packers—
Goodyear Tire & Rubber Co.
Guiberson Corp.
Larkin & Co.
Layne & Bowler Co.
Meier, E. C., Lubricating Co.
Oil Well Supply Co.
Regan Forge & Engineering Co.
Spang & Co.
United States Rubber Co.
Packing—
Crane Packing Co.
Durabla Mfg. Co.
Garlock Packing Co.
Goodrich, B. F., Rubber Co.
Imperial Belting Co.
Johns-Manville, Inc.
Packing—Metallic—
Crane Packing Co.
Paint Guns—
Binks Spray Equipment Co.
Painting Equipment—Mechanical
Matthews, W. N., Corp.
Paints—
Aluminum Co. of Ameica
American Asphalt Paint Co.
Arco Company, The
Cook Paint & Varnish Co.
Detroit Graphite Co.
Dixon, Joseph, Crucible Co.
Du Pont de Nemours, E. I. & Co., Inc.
Eagle-Picher Lead Co.
Eclipse Paint & Mfg. Co.
Hill, Hubbell & Co.
National Lead Co.
Sherwin-Williams Co.
St. Louis Surfacer & Paint Co.
Pipe—Cast Iron—
Greenspon's Jos., Sons Iron & Steel Co.
International Supply Co.
U. S. Cast Iron Pipe & Fdy. Co.
Pipe—Lead Chemical and Antimonial—
Eagle-Picher Lead Co.
National Lead Co.
Pipe—Steel—
Central Tube Co.
Continental Supply Co.
Greenspon's Jos., Sons Iron & Steel Co.
Jarecki Mfg. Co.
Kellogg, M. W., Co.
Murray Tool & Supply Co.
National Supply Co.
National Tube Co.
Republic Iron & Steel Co.
Ryerson, Jos. T., & Sons, Inc.
South Chester Tube Co.
Spang Chalfant & Co., Inc.
Superior Tube Co.
Wheeler Steel Corp.
Pipe—Wrought Iron—
Byers, A. M., Co.
Frick-Reid Supply Co.
Greenspon's, Jos., Sons Iron & Steel Co.
Oil Well Supply Co.
Reading Iron Co.
South Chester Tube Co.
Superior Tube Co.
Pipe and Nipple Threading Machines—
Bignall & Keeler Machine Works.
Cox & Sons Co., The
Landis Machine Co.
Ryerson, Jos. T., & Sons, Inc.
Pipe Clamps (See Clamps—Pipe)
Pipe Grips—
Larkin & Co.
Pipe Headers—
National Tube Co.
Newton Process Mfg. Co.
Pipe Line Coatings—
Hill, Hubbell & Co.
Pipe Line Construction Tools—
National Transit Pump & Machine Co.
Pipe Line Equipment—
Gaso Pump & Burner Mfg. Co.
Wheatley Bros. Machine Works
Pipe Screwing Machines—
Buckeye Traction Ditcher Co.
Pipe Straightening Machines—
W-K-M Co., Inc.
Pipe Suspension Device—
Stearns-Roger Mfg. Co.
Pipe Threaders—Power—
Williams Tool Corp.
Pipe Tools—
Armstrong Brothers Tool Co.
Nye Tool & Machine Works
Ridge Tool Co.
Walworth Co.
Piping—Fabricated—
Midwest Piping & Supply Co.
Piping—Hard Rubber—
United States Rubber Co.
Piping—Steel & Iron—
Crane Co.
Greenspon's, Jos., Sons Iron & Steel Co.
Power Piping Co.
Pistons—
Guiberson Corp.
Heppenstall Forge & Knife Co.
Pistons—Expansion—
Wilson Oil Tools Corp.
Pistons—Slush Pump—
Guiberson Corp.
Plugs—Bottom Water—
Guiberson Corp.
Pre-Heaters—
National Gas Products Co.
Newton Process Mfg. Co.
Ross Heater & Mfg. Co., Inc.
Preservatives—Asphalt—
American Asphalt Paint Co.
Pulleys—Wood, Iron and Steel—
Continental Supply Co.
Dodge Mfg. Co.
Pulling Machines—
Iron King Mfg. Co.
National Supply Co.
Safety Pulling Machine Co.
Pumpers—Long Stroke—
Farley Machine Co.
Pumping and Pulling Motors—Electric—
Westinghouse Electric & Mfg. Co.
Pumping Equipment—
American Well Works.
Axelson Machine Co.
Bryson Jackson Pump Mfg. Co. Inc.
D & B Pump & Supply Co.
Farley Machine Co.
Goulds Pumps, Inc.
Jones, S. M., Co.
Myers, F. E., & Bros. Co.
Northrup Equipment Co.
Oil Well Supply Co.
Prescott Co.
Ratigan, J. P., Co.
Waukesha Motor Co.
Pumping Gear Units—
Nuttall, R. D., & Co.
Pumping Powers—
Bessemer Gas Engine Co.
Buda Co.
Frick-Reid Supply Co.
Jones, S. M., Co.
Kansas City Hay Press Co.
Marion Mch., Fdy. & Supply Co.
National Supply Co.
Oil Well Supply Co.
Pattin Bros. Co.
Reid, Joseph, Gas Engine Co.
Spence Machine Co.
Titusville Iron Works Co.
Pumps—Boiler Feed—
Ajax Iron Works.
Byron Jackson Pump Mfg. Co., Inc.
Fairbanks-Morse & Co.
Gardner Governor Co.
Goulds Pumps, Inc.
Oil Well Supply Co.
Smith Separator Co.
Pumps—Centrifugal—
American Well Works.
Byron Jackson Pump Mfg. Co., Inc.
Fairbanks-Morse & Co.
Goulds Pumps, Inc.
Smith Separator Co.
Worthington Pump & Machinery Corp.
Pumps—Direct Driven—
Bessemer Gas Engine Co.
Smith Separator Co.
Pumps—Electric—
Prescott Co.
Smith Separator Co.
Pumps—Fuel Oil Service—
Blackmer Pump Co.
Goulds Pumps, Inc.
Northern Fire Apparatus Co.
Smith Separator Co.
Pumps—Fuel Oil Transfer—
Blackmer Pump Co.
Byron Jackson Pump Mfg. Co., Inc.
Pumps—Gasoline and Oil for Filling Stations—
Gilbert & Barker Mfg. Co.
Pumps—Gear Driven—
Gaso Pump & Burner Mfg. Co.
Lucey Mfg. Corp.
Prescott Co.
Smith Separator Co.

Pumps—Hot Oil—
Blackmer Pump Co.
Byron Jackson Pump Mfg. Co., Inc.
Goulds Pumps, Inc.
Smith Separator Co.
Pumps—Pipe Line—
Byron Jackson Pump Mfg. Co., Inc.
Frick-Reid Supply Co.
Gardner Governor Co.
Gaso Pump & Burner Mfg. Co.
Goulds Pumps, Inc.
National Transit Pump & Machine Co.
Prescott Co.
Wheatley Bros. Machine Works
Worthington Pump & Machinery Corp.
Pumps—Portable—
Gaso Pump & Burner Mfg. Co.
Pumps—Power—
Fairbanks-Morse & Co.
Gardner Governor Co.
Gaso Pump & Burner Mfg. Co.
Goulds Pumps, Inc.
Myers, F. E., Bro. & Co.
National Transit Pump & Machine Co.
Prescott Co.
Smith Separator Co.
Waukesha Motor Co.
Pumps—Refinery—
Blackmer Pump Co.
Byron Jackson Pump Mfg. Co., Inc.
Gardner Governor Co.
Gaso Pump & Burner Mfg. Co.
Goulds Pumps, Inc.
National Transit Pump & Machine Co.
Northern Fire Apparatus Co.
Smith Separator Co.
Pumps—Rotary—
Blackmer Pump Co.
Goulds Pumps, Inc.
Northern Fire Apparatus Co.
Roots, P. H. & F. M., Co.
Pumps—Sand—
Bridgeport Machine Co.
Larkin & Co.
Smith Separator Co.
Pumps—Slush—
Gardner Governor Co.
Pumps—Steam—
Fairbanks-Morse Co.
Frick-Reid Supply Co.
Gardner Governor Co.
Gaso Pump & Burner Mfg. Co.
Lucey Mfg. Corp.
National Transit Pump & Machine Co.
Oil Well Supply Co.
Prescott Co.
Smith Separator Co.
Pumps—Suction—
Gaso Pump & Burner Mfg. Co.
Pumps—Vacuum—
Bessemer Gas Engine Co.
Chicago Pneumatic Tool Co.
Clark Brothers Co.
Gaso Pump & Burner Mfg. Co.
Miller Improved Gas Engine Co.
Roots, P. H. & F. M., Co.
Ross Heater & Mfg. Co., Inc.
Smith Separator Co.
Pumps—Water—
American Well Works.
Byron Jackson Pump Mfg. Co., Inc.
Gaso Pump & Burner Mfg. Co.
Goulds Pumps, Inc.
Northern Fire Apparatus Co.
Prescott Co.
Smith Separator Co.
Pyrometers—
Brown Instrument Co.
Republic Flow Meters Co.

R

Ratchet Pipe Cutters—
Toledo Pipe Threading Machine Co.
Ratchet Pipe Threaders—
Nye Tool & Machine Works
Toledo Pipe Threading Machine Co.
Ratchet Reamers—
Nye Tool & Machine Co.
Ratchet Stocks and Dies—
Nye Tool & Machine Co.
Toledo Pipe Threading Machine Co.
Receiving Boxes—
Reid, Joseph, Gas Engine Co.
Recorders—Differential Pressure—
Equitable Meter & Mfg. Co.
Metric Valve Works.
Refinery Equipment—
American Radiator Co.
Blaw-Knox Co.
Braun, C. F., & Co.
Carbondale Machine Co.
Chicago Bridge & Iron Works.
Cross Engineering Co.
Graver Corp.
Griscom-Russell Co.
Kellogg, M., W. Co.
McKee, Arthur G., & Co.
Newton Process Mfg. Co.
Petroleum Appliance Co.
Petroleum Iron Works Co.
Power Piping Co.
Power Specialty Co.
Reid, Joseph, Gas Engine Co.
Ross Heater & Mfg. Co., Inc.
Ross-Meehan Foundries.
Smith, A. O., Corp.
Smith Separator Co.
Southwestern Engineering Co., Inc.
Southwestern Engineering Corp.
United Iron Works, Inc.
Universal Oil Products Co.
Vogt, Henry, Machine Co.
Walsh & Weidner Boiler Co.
Westcott & Greis.
Widdell Engineering Co.
Refractories—Furnace, Stills and Baffles—
Botfield Refractories Co.
National Gas Products Co.
Refrigerating Machinery—
Carbondale Machine Co.
United Iron Works, Inc.
Vogt, Henry, Machine Co.
Regulators—
Fisher Governor Co.
Gilfillan Machine Works.
Smith Separator Co.
Regulators—Gas—
Chaplin-Fulton Mfg. Co.
Davis, G. M., Regulator Co.
Equitable Meter & Mfg. Co.
Fisher Governor Co.
Metric Metal Works.
National Gas Products Co.
Smith Separator Co.
Rental Service—
Bridgeport Machine Co.
Reversible Clutches—
Bessemer Gas Engine Co.
Rig Irons—
International Supply Co.
Lucey Mfg. Corp.
National Supply Co.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Rigs—Drilling, All Steel—
International Derrick & Equipment Co.
Moore, Lee C., & Co., Inc.
Rigs—Portable Drilling—
National Supply Co.
National Turnbuckle Derrick Co.
Star Drilling Machine Co.
Rod Guides—
Meier, E. C., Lubricating Co.
Rods—Gauge—
Missouri Woodworking Co.
Rods—Polish—
Jones, S. M., Co.
Rods—Pull—
Axelson Machine Co.
Columbus Sucker Rod Co.
Jones, S. M., Co.
Sheffield Steel Corp.
Rods—Sucker—
Axelson Machine Co.
Columbus Sucker Rod Co.
D & B Pump & Supply Co.
Frick-Reid Supply Co.
Jones, S. M., Co.
National Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Sheffield Steel Corp.
Rods—Valve—
Jones, S. M., Co.
Roofing—Asbestos—
Johns-Manville, Inc.
Roofing—Galvanized Iron—
American Rolling Mill Co.
Rope Socket Metal—
Eagle-Picher Lead Co.
Rope—Manila—
Ajax Rope Co., Inc.
Bovaird Supply Co.
Republic Supply Co.
Rope—Wire—
Ajax Rope Co., Inc.
American Cable Co.
Bovaird Supply Co.
Bridgeport Machine Co.
Broderick & Bascom Rope Co.
International Supply Co.
Jarecki Mfg. Co.
Leschen, A. & Sons Rope Co.
Wickwire-Spencer Steel Corp.
Williamsport Wire Rope Co.
Rotary Bit Steel—
Andrews Steel Co.
Heppenstall Forge & Knife Co.
Rotary Drilling Equipment—
Emsco Derrick & Equipment Co.
Frick-Reid Supply Co.
International Derrick & Equipment Co.
Link-Belt Co.
Lucey Mfg. Co.
National Supply Co.
Oil Well Supply Co.
Republic Supply Co.
Titusville Iron Works Co.
Rotary Lines (See Rope—Wire)—
Rotary Post—
Reed Roller Bit Co.
Rotary Tool Joints—
Bartlesville Supply Co.
Hughes Tool Co.
Rust Preventatives—
Dearborn Chemical Co.
Eagle-Picher Lead Co.

S

Sand Lines—Manila—
Ajax Rope Co., Inc.
Plymouth Cordage Co.
Sand Lines—Wire—
Ajax Rope Co., Inc.
Broderick & Bascom Rope Co.
Hazard Mfg. Co.
Wickwire-Spencer Steel Corp.
Screens—Oil Well—
Layne & Bowler Co.
Screens—Water Well—
Layne & Bowler Co.
Screws Temper—
Burns Tool Co.
Securities—Oil—
Pforzheimer, Carl H., & Co.
Separators—Centrifugal—
Miller, Max B., & Co.
Separators—Gas and Oil—
Smith Separator Co.
Separators—Steam—
Volz Engineering Equipment Co.
Sheet Lead—Chemical and Antimonial—
Eagle-Picher Lead Co.
Sheets—Corrugated, Black and Galvanized—
American Rolling Mill Co.
American Sheet & Tin Plate Co.
Ryerson, Jos. T., & Son, Inc.
United Alloy Steel Corp.
Sheets—Steel—
American Rolling Mill Co.
American Sheet & Tin Plate Co.
Sheffield Steel Corp.
United Alloy Steel Corp.
Shingles—Asbestos—
Johns-Manville, Inc.
Siding—Galvanized Iron—
American Rolling Mill Co.
Sleeves—
Dayton Pipe Coupling Co.
Dresser, S. R., Mfg. Co.
Sleeves—Split—
Dayton Pipe Coupling Co.
Dresser, S. R., Mfg. Co.
Smoke Stacks—
Donovan Boiler Works.
Snuffers—Fire—
Simplex Equipment Co.
Sockets—
Acme Fishing Tool Co.
Bridgeport Machine Co.
Spang & Co.
Sockets—Sucker Rod—
Guiberson Corp.
Sockets—Swivel—
Arbon, Paul, & Co.
Sockets—Wire Rope—
Chicago Steel Foundry Co.
Soda Ash—
Mathieson Alkali Works, Inc.
Soda—Caustic—
Mathieson Alkali Works, Inc.
Solders—Bar and Wire—
Eagle-Picher Lead Co.
Hoyt Metal Co.
Spark Plugs—
Mosler Metal Products Corp.
Spears—
Acme Fishing Tool Co.
Brown Tool Co., Inc.
Sprockets—Power Transmission—
Ajax Iron Works
Chain Belt Co.
Stands—Vice—
Nye Tool & Machine Works
Steel—All Kinds—
Ryerson, Jos. T., & Son, Inc.
Steel—Alloy—
Central Steel Co.
Timken Roller Bearing Co.
United Alloy Steel Corp.
Steel—Bit—
Central Steel Co.
United Alloy Steel Corp.
Steel—Hot Rolled Strip—
Central Steel Co.
Steel—Special—
Andrews Steel Co.
Central Steel Co.
United Alloy Steel Corp.
Steel Fabricators—Structural—
Austin Co.
Braden Co.
Graver Corp.
International Derrick & Equipment Co.
Steel Pitmans—
International Derrick & Equipment Co.
Moore, Lee C., & Co., Inc.
Steel Plate Construction—
Chicago Bridge & Iron Works.
Graver Corp.
Kaw Steel Construction Co.
Pennsylvania Engineering Wks.
Petroleum Iron Works Co.
Vogt, Henry, Machine Co.
Steel Wheels and Tug Rims—
International Derrick & Equipment Co.
Stills—
Blaw-Knox Co.
Chicago Bridge & Iron Works
Graver Corp.
Kaw Steel Construction Co.
Kellogg, M. W., Co.
McKee, Arthur G., & Co.
Newton Process Mfg. Co.
Petroleum Iron Works Co.
Smith, A. O., Corp.
Vogt, Henry, Machine Co.
Widdell Engineering Co.
Stocks and Dies—
Borden Co.
Nye Tool & Machine Works.
Toledo Pipe Threading Machine Co.
Stuffing Boxes—
Axelson Machine Co.
Kansas City Hay Press Co.
Sulphuric Acid—
Eagle-Picher Lead Co.
Superheaters—Steam—
Power Plant Equipment Co.
Swabs—
Arbon, Paul, & Co.
Burt Corporation.
Guiberson Corp.
Simplex Equipment Co.
Swedge Nipples—
Dresser, S. R., Mfg. Co.
Harrisburg Pipe & Pipe Bending Co.
Swing Line Equipment—
Brooks Engineering Corp.
Swivels—
Layne & Bowler Co.
Lucey Mfg. Corp.
Titusville Iron Works Co.

T

Tachometers—
Brown Instrument Co.
Tank Equipment—
Brooks Engineering Corp.
Oil Conservation Engineering Co.
Tanks—Bolted—
Butler Mfg. Co.
Columbian Steel Tank Co.
Maloney Tank Mfg. Co.
Parkersburg Rig & Reel Co.
Tanks—Bulk Station—
Butler Mfg. Co.
Graver Corp.
Tanks—Cylindrical—
Graver Corp.
Petroleum Iron Works Co.
Tanks—Elevated Steel—
Chicago Bridge & Iron Works
Graver Corp.
Tanks—Field Storage—
American Car & Foundry Co.
Donovan Boiler Works.
Graver Corp.
Kaw Steel Construction Co.
Kewanee Boiler Co.
Maloney Tank Mfg. Co.
Petroleum Iron Works Co.
Pittsburgh-Des Moines Steel Co.
Riter-Conley Co.
United Iron Works, Inc.
Tanks—Horizontal Storage—
Graver Corp.
Kaw Steel Construction Co.
Maloney Tank Mfg. Co.
Tanks—Run Down—
Donovan Boiler Works.
Graver Corp.
Kaw Steel Construction Co.
Newton Process Mfg. Co.
Tanks—Truck—
Butler Mfg. Co.
Columbian Steel Tank Co.
White Co.
Tanks—Underground—
Butler Mfg. Co.
Gilbert & Barker Mfg Co.
Graver Corp.
Kewanee Boiler Co.
Pittsburgh-Des Moines Steel Co.
Tanks—Welded—
Chicago Bridge & Iron Works.
Graver Corp.
Pennsylvania Engineering Wks.
Taper Taps—
Hughes Tool Co.
Tapes—Measuring for Oil Gauging—
Lufkin Rule Co.
States Engineering Co.
Thermometers—Indicating and Recording—
American Schaeffer & Budenberg Corp.
Bristol Co.
Brown Instrument Co.
Thermometers—Resistance—
Brown Instrument Co.
Threading Machines—
Bignall & Keeler Machine Wks.
Cox & Sons Co., The
Landis Machine Co.
Thread Protectors—
Spang & Co.
Tires—Automobile—
Continental Supply Co.
Tires—Pneumatic & Solid—
Kelly-Springfield Tire Co.
Tires—Truck—
Kelly-Springfield Tire Co.
Tongs—
Bridgeport Machine Co.
Wilson Oil Tools Corp.
Tongs—Back Up—
Williams, J. H., & Co.
Tongs—Break Out—
Reed Roller Bit Co.
Williams, J. H., & Co.
Tongs—Casing —
Dunn Mfg. Co.
Guiberson Corp.
Tongs—Chain Pipe—
Armstrong Bros. Tool Co.
Williams, J. H., & Co.
Tongs—Pipe—
National Transit Pump & Machine Co.
Tongs—Rotary—
Dunn Mfg. Co.
Tongs—Tool Joint—
Guiberson Corp.
Hughes Tool Co.
Reed Roller Bit Co.
Tongs—Tubing—
Dunn Mfg. Co.
Tool Chests—Pipe—
Nye Tool & Machine Works.
Tool Joints—
Bridgeport Machine Co.
Federal Supply Co.
Hughes Tool Co.
Lucey Mfg. Corp.
Oil Well Supply Co.
Regan Forge & Engineering Co.
Torches—
Oxweld Acetylene Co.
Towers—
Graver Corp.
Tractors—
Cleveland Tractor Co.
International Harvester Co. of America.
Trailers—
Spencer Trailer Co.
Transmission Belt—Rubber—
Goodrich, B. F., Rubber Co.
United States Rubber Co.
Transmission Lining—
Stanley Belting Corp.
Traveling Block—
Lucey Mfg. Corp.
Regan Forge & Engineering Co.
Wright Mfg. Co.
Trenchers—Vertical Boom—
Barber-Greene Co.
Trucks—Motor—
Ford Motor Co.
General Motors Truck Co.
Graham Brothers.
International Harvester Co. of America.
White Co.
Tubes—Boiler, Charcoal Iron—
Byers, A. M., Co.
Reading Iron Co.
Tubes—Boiler Steel—
Continental Supply Co.
National Tube Co.
Ryerson, Jos. T., & Sons, Inc.
Tubing—
Babcock & Wilcox Tube Co.
Byers, A. M., Co.
Central Tube Co.
Continental Supply Co.
National Tube Co.
Reading Iron Co.
Republic Iron & Steel Co.
South Chester Tube Co.
Spang, Chalfant & Co., Inc.
Superior Tube Co.
Wheeling Steel Corp.
Tubing Catchers—
Dunn Mfg. Co.
Guiberson Corp.
Tubing Protectors (See Rod Guides)—
Tubular Goods—
Babcock & Wilcox Tube Co.
Central Tube Co.
Continental Supply Co
Oil Well Supply Co.
Republic Iron & Steel Co.
Spang, Chalfant & Co., Inc.
Wheeling Steel Corp.
Tubular Goods—Wrought Iron—
Byers, A. M., Co.
Reading Iron Co.
Turbines for Lighting Equipment
Lucey Mfg. Corp.
Westinghouse Electric & Mfg. Co.

U

Underreamer Body Steel—
Andrews Steel Co.
Heppenstall Forge & Knife Co.
Underreamers—
Bridgeport Machine Co.
Brown Tool Co., Inc.
Guiberson Corp.
Wilson Oil Tools Corp.
Unions—
Central Forging Co.
Jefferson Union Co.

V

Valuations—
American Appraisal Co.
Valves—Blow-Off—
Homestead Valve Mfg. Co.
Merco Nordstrom Valve Co.
Valves—Brass & Bronze—
Homestead Valve Mfg. Co.
Lunkenheimer Co.
Reading Steel Casting Co.
Walworth Co.
Valves—Cast Steel—
Chapman Valve Mfg. Co.
Homestead Valve Mfg. Co.
Walworth Co.
Valves—Check—
Gaso Pump & Burner Mfg. Co.
Lunkenheimer Co.
Walworth Co.
Valves—Drop Forged Steel—
Edwards Valve & Mfg. Co.
Vogt, Henry, Machine Co.
Valves—Gate—High and Low Pressure—
Chapman Valve Mfg. Co.
Crane Co.
Darling Valve & Mfg. Co.
Kennedy Valve Mfg. Co.
Kerotest Mfg. Co.
Ludlow Valve Mfg. Co.
Lunkenheimer Co.
Murray Tool & Supply Co
Powell, Wm., Co.
Walworth Co.
Valves—Iron—
Chapman Valve Mfg. Co.
Lunkenheimer Co.
Merco Nordstrom Valve Co.
Reading Steel Casting Co.
Walworth Co.
Valves—Metal Pump—
Durable Mfg. Co.
Valves—Pump—
United States Rubber Co.
Valves—Relief—Supersensitive—
Davis, G. M., Regulator Co.
Valves—Steel—
Chapman Valve Mfg. Co.
Edward Valve Mfg. Co.
Kerotest Mfg. Co.
Lunkenheimer Co.
Metric Metal Works.
Powell, Wm., Co.
Reading Steel Casting Co.
Walworth Co.
Valves—Tank Vent—
Brooks Engineering Corp.
Oil Conservation Engineering Co.
Valves—Working Barrel—
Atlas Ball Co.
Axelson Machine Co.
D & B Pump & Supply Co.
Hough, Charles N., Mfg. Co.
Northrup Equipment Co.
Oil Well Supply Co.
Varnishes—
Arco Company, The
Detroit Graphite Co.
Sherwin-Williams Co.
Vises—Bench—
Nye Tool & Machine Works.
Vises—Pipe—
Nye Tool & Machine Works.
Vises—Post—
Nye Tool & Machine Works.

W

Wagons—Truss Wheel—
Athey Truss Wheel Co.
Walking Beams—Steel—
Emsco Derrick & Equipment Co.
Moore, Lee C., & Co., Inc.
Water Cooling Systems —
Power Plant Equipment Co.
Water Softeners and Filters—
Butler Mfg. Co.
Graver Corp.
Wax—
Barnsdall Refining Co.
Gulf Refining Co.
Pure Oil Co.
Weight Indicators—
Hughes Tool Co.
Welding Accessories—Electric—
Wilson Welder & Metals Co.
Welding and Cutting Apparatus—
Oxweld Acetylene Co.
Welding Machines—Electric—
Wilson Welder & Metals Co.
Welding Supplies—
Oxweld Acetylene Co.
Welding Wire—
Frick-Reid Supply Co.
Oxweld Acetylene Co.
Wilson Welder & Metals Co.
Well Shooting—
Eastern Torpedo Co.
Kinley, M. M.
Zero Hour Torpedo Co.
Wheels—Pipe Cutter—
Nye Tool & Machine Works.
Winches—
Braden Co.
Brooks Engineering Co.
Oil Conservation Engineering Co.
Wire Lines (See Cables—Steel)—
Wood Patterns and Models—
Gaso Pump & Burner Mfg. Co.
Working Barrels—
Axelson Machine Co.
D & B Pump & Supply Co.
D. & N. Specialty Co.
Franklin Valveless Engine Co.
Frick-Reid Supply Co.
Hough, Charles N., Mfg. Co.
McGregor Working Barrel Co.
Norris, W. C.
Northrup Equipment Co.
Oil Well Supply Co.
Wrenches—Closet Spuds—
Nye Tool & Machine Works.
Wrenches—Drop Forged—
Williams, J. H., & Co.
Wrenches—Pipe—
Ridge Tool Co.
Trimont Mfg. Co.
Walworth Co.
Wrenches—Ratchet—
Dresser, S. R., Mfg. Co.
Nye Tool & Machine Works.

Z

Zinc Oxide—
Eagle-Picher Lead Co.

Oklahoma-Kansas and Eastern Pipe Line Report

PIPELINE STATEMENT FOR JUNE

Oklahoma-Kansas

Runs

*Prairie Pipe Line Co.	3,864,000	128,800
Gulf Pipe Line Co.	1,185,886	39,530
Texas Pipe Line Co.	505,387	16,846
Magnolia Petroleum Co.	1,141,393	38,046
Cosden Pipe Line Co.	821,767	27,392
Empire Pipe Line Co.	724,409	24,147
*Sinclair Pipe Line Co.	1,692,000	56,400
*Other lines	7,080,000	236,000
Total June	17,014,842	567,161
Total May	17,864,437	576,281
Difference	849,595	9,120

Shipments

†Prairie Pipe Line Co.	4,215,416	140,514
Gulf Pipe Line Co.	1,078,313	35,944
The Texas Pipe Line Co.	777,062	25,902
Magnolia Petroleum Co.	1,223,754	40,792
Cosden Pipe Line Co.	798,600	26,620
Empire Pipe Line Co.	828,505	27,616
†Sinclair Pipe Line Co.	2,486,153	82,872
*Other lines	7,950,000	265,000
Total June	19,357,803	645,260
Total May	21,275,280	686,298
Difference	1,917,477	41,038

Stocks

*Prairie Oil & Gas Co.	27,750,000
*Prairie Pipe Line Co.	2,000,000
Gulf Pipe Line Co. and Gypsy Oil Co.	6,398,124
The Texas Company	2,921,098
Magnolia Petroleum Co.	4,533,898
Empire Pipe Line Co.	2,736,142
Cosden Pipe Line Co.	2,055,583
*Sinclair Pipe Line Co.	18,800,000
Carter Oil Co.	12,948,357
*Other lines	9,300,000
Total June	89,443,202
Total May	90,623,771
Difference	1,180,569

*Estimated. †Prairie Pipe Line shipments include also Texas crude oil and Sinclair shipments include also Texas and Wyoming crude oil.

Note:—Stocks do not include approximately 4,800,000 bbls. of crude oil held in storage on private tank farms and leases.

EASTERN PIPE LINES

Runs From Wells

In the following table will be found the regular receipts from wells by various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky and Indiana for April and May:

	April, 1926	May, 1926
Nat. Transit	175,931.37	174,995.11
S. W. Pa. Pipe	89,773.16	91,188.06
Eureka P. L.	372,871.02	370,755.39
Buckeye P. L. (Macksburg)	304,514.55	294,855.09
Buckeye P. L. (Cleveland)	12,060.87	11,845.40
Buckeye P. L. (Lima, etc.)	127,204.85	133,401.39
Indiana P. L.	9,095.76	10,520.15
Cumberland P. L.	273,842.26	268,123.06
N. Y. Transit	20,181.07	19,552.93
Tidewater P. L.	160,027.79	159,613.39
Pure Oil	171,766.80	172,006.54
Emery P. L.	48,703.74	49,842.97
Indian Ref.	93,143.14	97,979.63
Paragon Dev.	24,723.50	23,308.37
Pittsburgh P. L.	6,733.43	
Total	1,890,573.41	1,877,987.48
Daily average	63,019.11	60,580.24

Note: Indian Refining Co. also reported other receipts of 283,329.87 bbls. Paragon Refining Co. had other receipts of 140,751.80 bbls. Paragon Development had other receipts of 2,118.44 bbls. Pure Oil had other receipts of 59,552.74 bbls.

Petroleum Deliveries

The following tables exhibit the shipments or regular deliveries of various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky and Indiana for April and May:

	April, 1926	May, 1926
Nat. Transit	314,763.21	345,085.14
S. W. Pa. P. L.	409,564.75	393,148.52
Eureka P. L.	163,392.74	192,968.03
Buckeye P. L. (Macksburg)	94,254.91	114,603.45
Buckeye P. L. (Cleveland)	1,162.42	969.91
Buckeye P. L. (Lima, etc.)	823,641.06	910,244.94
Indiana P. L.	963,616.70	996,006.17
Cumberland P. L.	162,112.44	144,932.35
N. Y. Transit	668,407.25	690,213.42
Northern Pipe	133,960.98	161,237.60
Tidewater P. L.	93,030.34	159,830.90
Pure Oil	205,777.75	244,274.44
Emery P. L.	45,829.05	49,935.36
Paragon Ref.	170,282.16	140,751.80
Indian Ref.	288,296.97	419,340.15
Paragon Dev.	26,494.22	27,092.55
Pittsburgh P. L.	6,539.32	
Total	4,571,126.27	4,990,634.73
Daily average	152,370.87	154,536.60

Gross Stocks

The gross stocks held by various pipe lines in the oil producing sections of New York, Pennsylvania, West Virginia, Ohio, Indiana and Kentucky, at the close of April and May, were as follows:

	April, 1926	May, 1926
Nat. Transit	1,069,233.29	1,062,711.06
S. W. Pa. P. L.	688,704.11	592,119.25
Eureka P. L.	1,621,601.25	1,489,308.65
Buckeye P. L. (Macksburg)	417,370.13	454,767.17
Buckeye P. L. (Cleveland)	73,536.91	80,869.73
Buckeye P. L. (Lima, etc.)	2,369,543.33	2,331,309.46
Indiana P. L.	544,568.51	566,868.09
Cumberland P. L.	599,474.86	598,818.89
Southern P. L.	481,210.52	447,896.85
N. Y. Transit	695,608.61	735,622.34
Northern P. L.	436,138.52	442,189.21
Pure Oil	460,634.48	450,527.08
Emery P. L.	34,514.24	35,299.99
Paragon Ref.	72,985.28	45,985.57
Indian Ref.	231,194.41	193,356.41
Paragon Dev.	4,918.23	4,107.65
Pittsburgh P. L.	4,614.59	
Total	9,805,851.27	9,531,757.40
Decrease	*367,553.34	274,093.87

*Increase.

Grades of Oil

The following table shows the amount of the different grades of oil held by the eastern pipe lines at the close of April and May showing the gross stocks of the above fields:

	April, 1926	May, 1926
Pennsylvania	4,076,568.47	3,824,110.70
Lima	947,707.33	953,292.28
Kentucky	1,162,345.60	1,167,315.61
Mid-Continent	3,459,618.16	3,479,821.87
Illinois	158,711.71	107,216.94
Total	9,805,851.27	9,531,757.40

Daily Average Runs

The following table shows the daily average runs of the Pennsylvania, Lima and Kentucky oil fields for the past four years:

	1923	1924	1925	1926
January	76,790	62,638	56,831	55,630
February	71,092	62,023	60,606	60,394
March	76,593	68,721	60,575	61,644
April	75,614	71,058	62,062	63,019
May	77,365	63,942	59,217	60,580
June	77,593	63,230	61,270	.....
July	71,879	64,208	62,639	.....
August	76,910	59,942	59,686	.....
September	72,358	62,920	62,510	.....
October	76,256	64,976	60,995	.....
November	70,763	56,282	59,350	.....
December	69,271	55,814	57,974	.....

Daily Average Shipments

The following table gives daily average shipments from the Pennsylvania, Lima and other fields for the past four years:

	1923	1924	1925	1926
January	171,067	145,518	157,889	156,056
February	164,219	148,722	160,863	159,488
March	185,487	147,098	154,591	150,239
April	170,751	147,611	151,429	152,371
May	177,102	134,997	146,995	154,537
June	173,598	143,010	149,467	.....
July	168,330	124,187	161,338	.....
August	142,776	123,120	161,730	.....
September	137,266	127,325	156,719	.....
October	134,597	122,170	145,388	.....
November	131,426	124,400	143,582	.....
December	139,909	151,392	150,162	.....

Gross Stocks

In the following table will be found the gross stocks of the various lines of the Pennsylvania, Lima and Kentucky oil fields, including oil received from other lines, at the close of each month for the past three years:

	1924	1925	1926
January	12,907,202	11,353,276	9,859,170
February	11,844,068	11,192,924	9,579,354
March	10,906,752	11,158,297	9,438,293
April	10,922,742	11,062,082	9,805,851
May	11,336,309	11,207,662	9,531,757
June	11,544,204	11,093,796	.....
July	12,062,361	11,067,453	.....
August	12,221,676	10,974,481	.....
September	12,206,836	10,781,753	.....
October	12,664,061	11,086,850	.....
November	12,268,530	11,068,158	.....
December	11,583,680	10,458,445	.....

Franklin Pipe Line Co.

The following table exhibits the condition of the Franklin Pipe Line at the close of business for the months named and not counted in the stocks and averages reported above:

1925—	Receipts	Shipmts.	Stocks
May	2,814.99	5,719.90	10,254.13
June	3,052.75	1,221.83	12,085.05
July	2,639.34	3,174.10	11,550.39
August	3,216.97	1,577.99	13,189.37
September	2,929.99	5,352.05	10,767.31
October	2,869.75	1,499.34	12,137.62
November	2,759.66	2,671.32	12,283.46
December	2,661.87	3,441.67	11,503.66
1926—			
January	2,990.16	1,478.35	13,015.41
February	2,580.23	2,776.19	12,819.46
March	2,754.62	1,732.77	13,841.30
April	3,137.40	4,519.68	12,459.02
May	2,933.29	2,096.36	13,296.90

The Illinois Field

The following table gives the report of the Illinois Pipe Line Co. in Illinois:

Gross stocks June 1	2,839,930.90
Runs from wells	664,235.77
Other receipts	344,229.50
Regular deliveries	455,231.13
Other deliveries	418,247.49

The amount of Illinois oil run by the Tidewater Pipe Co. in May was 28,180.90 bbls. and deliveries were 43,225.78 bbls. Adding these figures to those of the Illinois Pipe Line Co. makes the runs and deliveries as follows:

1925—		
May	692,671.94	668,573.63
June	700,090.46	589,535.34
July	724,481.26	664,713.19
August	673,652.38	650,649.97
September	706,434.87	510,697.61
October	706,532.00	633,682.33
November	664,556.30	488,449.19
December	665,086.99	578,938.47
1926—		
January	665,243.62	516,083.76
February	632,611.99	506,310.51
March	753,300.74	524,625.95
April	610,957.04	487,604.00
May	682,416.67	498,456.90

The Tidewater Pipe Co., Ltd., also delivered in May 314,131.72 bbls. of Oklahoma oil.

AVERAGE DAILY RECEIPTS OF CALIFORNIA OIL AT ATLANTIC AND GULF PORTS

Average bbls. per day—	ATLANTIC PORTS: Baltimore	Boston	New York	Philadelphia	Others	Total	GULF COAST PORTS: Galveston	New Orleans Baton Rouge	Port Arthur Sabine Pass	Tampa	Total	Total All Ports
February	13,111	9,464	28,214	24,393	20,107	95,289	.....	.....	.....	.....	.....	95,289
March	7,000	2,516	48,839	16,612	16,903	91,870	.....	.....	.....	.....	.....	91,870
April	19,033	5,133	28,332	15,400	22,867	88,767	.....	.....	4,700	.....	.....	93,467
May	27,065	7,903	15,387	13,462	17,742	81,549	.....	.....	4,022	.....	.....	85,571

AVERAGE DAILY IMPORTS OF PETROLEUM AT PRINCIPAL UNITED STATES PORTS

Average bbls. per day—	ATLANTIC PORTS: Baltimore	Boston	New York	Philadelphia	Others	Total	GULF COAST PORTS: Galveston	New Orleans Baton Rouge	Port Arthur Sabine Pass	Tampa	Total	Total All Ports
February	14,643	16,071	60,107	9,464	20,750	121,035	22,321	50,250	6,714	5,571	85,571	206,606
March	28,387	15,936	81,742	16,290	34,258	176,613	19,355	44,097	7,096	5,294	75,842	252,454
April	15,200	14,000	76,833	10,533	29,333	156,000	19,200	24,900	2,000	4,433	50,533	206,533
May	12,387	12,258	76,516	11,645	21,548	133,355	12,719	45,226	1,936	5,677	65,549	198,904

GROSS PRODUCTION OF THE UNITED STATES FOR 12 MONTHS

(IN BARRELS)

		California	Oklahoma	Texas	Kansas	Arkansas	Louisiana	Rocky Mountains	Eastern Fields	Total
July:	Month	20,411,059	14,263,565	12,337,598	3,686,675	7,835,819	1,898,178	3,129,199	3,348,000	66,910,083
	Daily average	658,421	460,115	397,894	118,925	252,768	61,231	100,942	108,000	2,158,390
August:	Month	21,055,580	14,441,040	11,936,079	3,558,087	7,450,580	1,858,543	3,250,448	3,177,000	66,677,357
	Daily average	677,599	465,480	385,022	114,777	240,341	56,727	104,853	102,484	2,150,883
September:	Month	20,062,763	14,825,040	11,264,890	3,393,270	6,457,950	1,776,570	3,235,625	3,212,000	64,228,108
	Daily average	668,759	494,168	375,496	113,109	215,265	56,219	107,854	107,067	2,140,937
October:	Month	20,015,076	14,921,199	11,196,511	3,477,146	6,409,281	1,871,830	3,394,990	3,248,000	64,534,033
	Daily average	645,648	481,329	361,178	112,166	206,751	60,382	109,500	104,774	2,081,743
November:	Month	19,095,907	14,590,980	10,650,087	3,221,760	5,927,955	1,758,882	3,088,121	2,992,000	61,325,693
	Daily average	636,530	486,366	355,003	107,397	197,599	58,629	102,937	99,753	2,044,190
December:	Month	19,249,711	14,123,848	10,930,455	3,308,816	6,047,883	1,763,966	3,187,164	3,086,900	61,698,743
	Daily average	620,959	455,608	352,595	106,736	195,093	56,902	102,812	99,552	1,990,282
January:	Month	19,069,563	13,674,813	11,049,715	3,250,536	5,489,604	1,726,390	3,136,280	3,014,000	60,410,901
	Daily average	615,147	441,123	356,442	104,856	177,084	55,690	104,396	97,226	1,948,741
February:	Month	17,163,963	12,392,016	9,943,232	2,877,812	4,756,836	1,584,184	2,778,605	2,931,000	54,427,648
	Daily average	612,999	442,572	355,115	102,779	169,887	56,578	99,236	104,678	1,978,844
March:	Month	18,825,786	14,312,886	11,014,238	3,334,887	5,115,837	1,889,663	3,161,250	3,349,000	61,003,547
	Daily average	608,283	461,706	355,298	107,577	165,027	60,957	101,976	108,032	1,957,856
April:	Month	18,091,771	14,468,190	10,799,760	3,330,120	5,127,510	1,959,570	3,231,404	3,183,000	60,191,325
	Daily average	603,059	482,273	359,992	111,004	170,917	65,319	104,239	106,100	2,006,377
May:	Month	18,667,144	14,507,008	11,940,797	3,516,640	5,482,939	2,231,938	3,459,489	3,317,000	63,122,955
	Daily average	602,166	467,968	385,187	113,440	176,879	71,998	111,596	107,000	2,036,224
June:	Month	18,269,417	14,073,510	11,783,550	3,366,450	5,064,760	2,205,480	3,437,905	3,240,000	61,441,072
	Daily average	608,981	469,117	392,785	112,215	168,822	73,516	114,597	108,000	2,048,036
	Total 12 months	229,927,730	170,594,095	134,846,912	40,322,199	71,166,954	22,525,194	38,490,480	38,097,900	745,971,464
	Daily average	629,939	467,381	369,438	110,472	194,978	61,712	105,478	104,378	2,043,757

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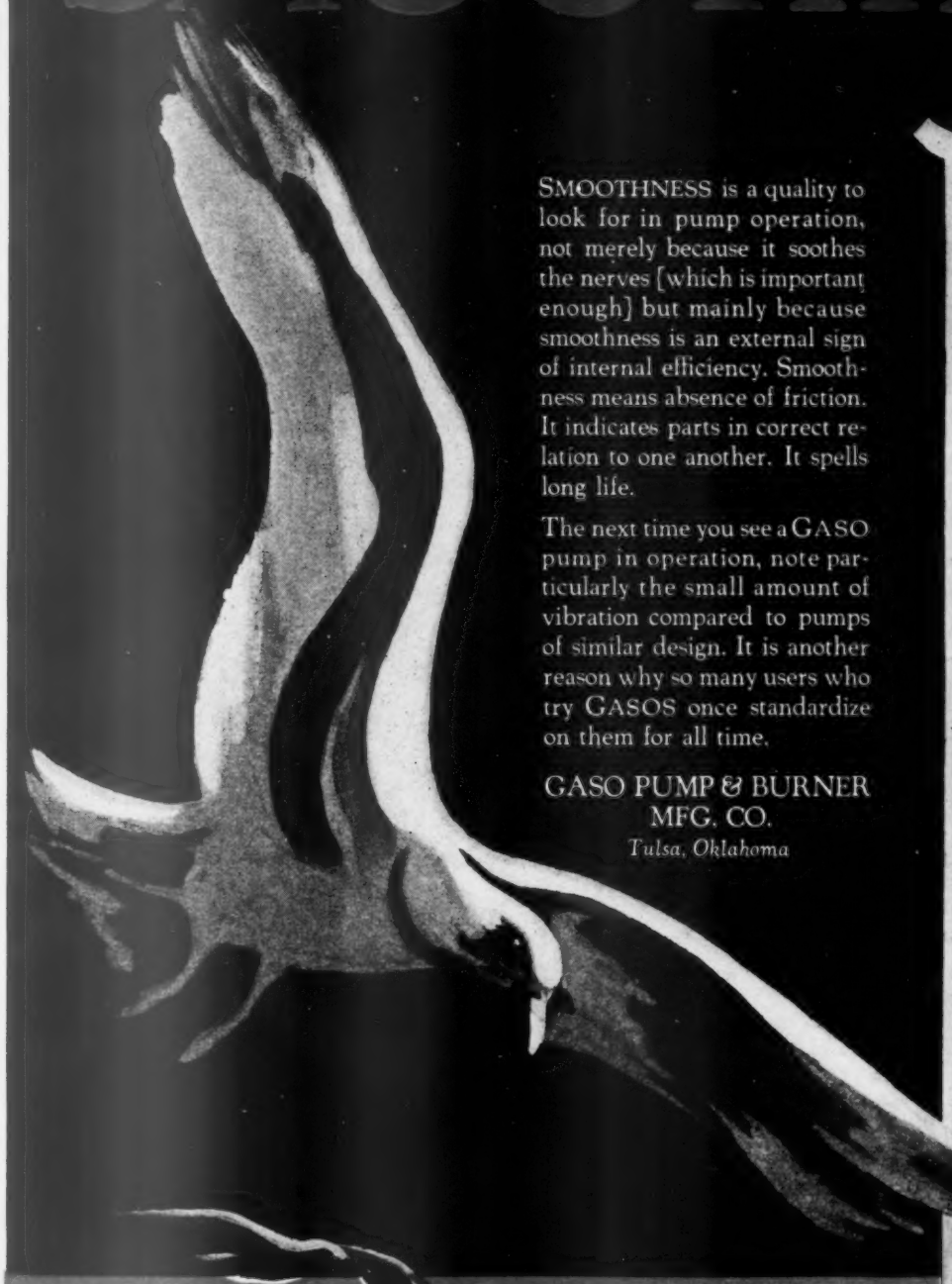

SMOOTHNESS is a quality to look for in pump operation, not merely because it soothes the nerves [which is important enough] but mainly because smoothness is an external sign of internal efficiency. Smoothness means absence of friction. It indicates parts in correct relation to one another. It spells long life.

The next time you see a GASO pump in operation, note particularly the small amount of vibration compared to pumps of similar design. It is another reason why so many users who try GASOS once standardize on them for all time.

GASO PUMP & BURNER MFG. CO.
Tulsa, Oklahoma

STEAM PUMPS WITH LONG LIFE INBUILT

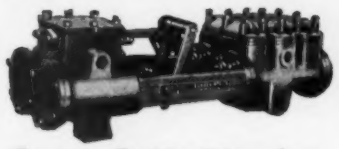

Figure 401—For 175 to 800 pound pressures; a widely used model with an inclination to do the same work as much more expensive types.

Figure 401-S—An adaptation of Figure 401. Especially suited to refinery uses or wherever else a large capacity, low pressure pump is required.

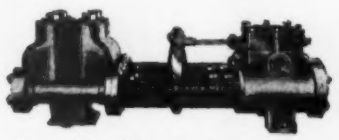

Figure 404—Valve Pot type for 500 to 800 pound pressures. Valve pots accessible from outside. Ideal for high pressure gasoline and acid work.

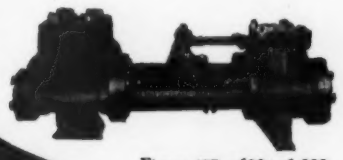

Figure 407—600 to 1,000 pound pressures. A sturdy, large capacity, high pressure steam pump, meeting a large variety of demands. Valve pot type.

GASO PUMPS
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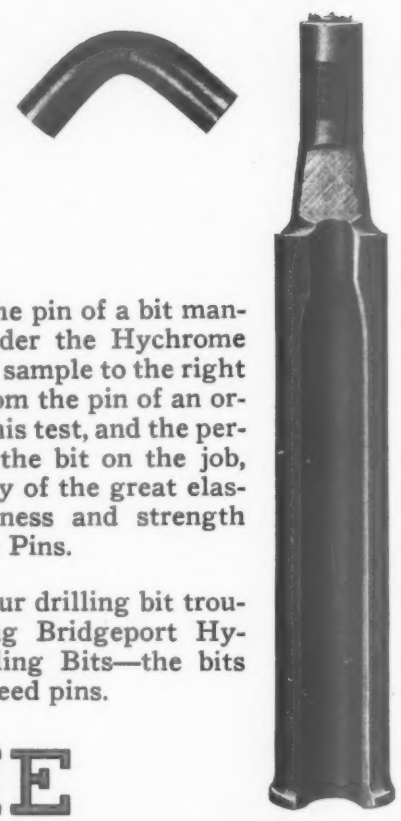
DRILLING BITS

the bit with the Guaranteed Pin

This eliminates This

GUARANTEE

WE GUARANTEE that the pin on a Bridgeport Hychrome Drilling Bit will not break off, pull off or jump off under ordinary drilling conditions. If it does, we will replace the bit or refund your money.



HERE is what you have been looking for for sixty years —A DRILLING BIT WITH A GUARANTEED PIN. The Bridgeport HYCHROME Drilling Bit Pin is guaranteed by us not to "break off," "pull off," "knock off" or "jump off." A positive and definite written guarantee is given with every set of bits purchased.

The two samples shown above were bent cold under the hammer. The sample to the left was taken from the pin of a bit manufactured under the Hychrome Process. The sample to the right was taken from the pin of an ordinary bit. This test, and the performance of the bit on the job, tells the story of the great elasticity, toughness and strength of Hychrome Pins.

Eliminate your drilling bit troubles by using Bridgeport Hychrome Drilling Bits—the bits with guaranteed pins.

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